

Optra Color 1200

User's Guide

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Preface

About the manuals

This *User's Guide* provides detailed information about color functions, media specifications, printer supplies, memory requirements, changing printer settings, using the printer operator panel, and solving printer problems. The book is intended primarily for system administrators who are making decisions about the appropriate printer configuration and printer default settings, and who may be responsible for troubleshooting printer problems and ordering printer supplies.

The *Quick Reference* offers an overview of the printer menu structure and some tips for clearing paper jams and loading paper. You may want to keep the *Quick Reference* near the printer so all printer users have convenient access to it.

Refer to the *Setup Guide* for detailed instructions on setting up the printer hardware, installing options, loading paper in the standard or optional trays, loading media in the multipurpose feeder, and launching the CD to install printer drivers and utilities.

Conventions

It may help you to recognize the conventions we have used in this book:

- Operator panel buttons are printed in a boldface type:

Press **Go** after changing a menu setting.

- Messages that appear on the operator panel display are also printed in a boldface type:

If **Black Toner Empty** appears on the operator panel display, you must install a new black toner cartridge before you can resume printing.

- Notes, warnings, and cautions appear in the left column for easy reference.

Note: A note provides auxiliary information you may find useful.

Warning! A warning identifies something that might damage your printer hardware or software.

Caution! A caution identifies something that might cause you harm.

Other sources of information

In addition to the *User's Guide*, *Setup Guide*, and *Quick Reference*, Lexmark offers other sources of information about your printer or about Lexmark products and services.

Online documents

The CD that was shipped with your printer contains several online documents. Refer to the booklet that came with the CD for launching instructions. Once you have launched the CD, click the View Online Documentation icon to display a list of the available documents. All online documents are provided in English only.

The CD includes:

- *Introduction to MarkVision*, which describes how to use some of the most popular MarkVision features.
- *Network Adapter User's Guide*, which provides general information about setting up an optional network adapter after installing it in your printer.

- *Card Stock & Label Guide*, which provides detailed information about selecting media appropriate for your printer.
- A listing of PCL emulation printer commands.

Technical Reference

If you find you need more information about printer languages and commands, interface specifications, or memory management, a printed *Technical Reference* is available from Lexmark. To request a *Technical Reference*, simply fill out the order form included with the printer registration card and drop it in the mail.

Lexmark web site

Access our site on the World Wide Web for up-to-date information about Lexmark and Lexmark products:

[http: // www.lexmark.com](http://www.lexmark.com)

Automated fax system

If you're in the U.S. or Canada, you can use the Lexmark automated fax system to request information about Lexmark products, available printer drivers, or other related topics. LEXFAX is available 24 hours a day, 7 days a week.

To request a catalog of the information available, simply dial (606) 232-2380 from a touchtone phone and follow the voice prompts. Have your fax number ready.

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Details relating to compatibility are included in the *Technical Reference*.

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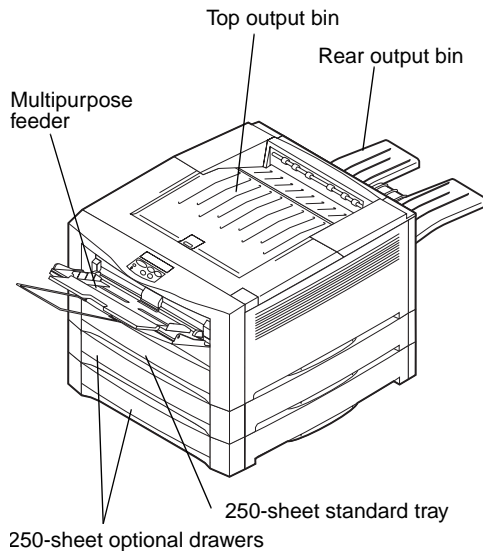
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1

Introducing your printer



The Optra Color 1200 is a network color printer that uses electrophotographic technology to deliver high quality images, presentation graphics, line art, and text. Its fast output—up to 12 pages per minute (ppm) for both four-color and monochrome print jobs—makes it the ideal solution for businesses where performance is critical.

The printer's flexible design allows it to support a variety of printing needs. For example, if you print a mixture of color and mono (black only) jobs, you can choose to maximize print speed *or* maximize supplies yield. If you need the printer to match the color process used in a particular application, you can select RGB or CMYK color corrections. Or you can adjust the printed colors to more closely represent the colors on your computer display.

A variety of connectivity options make the Optra Color 1200 an excellent choice for all types of system environments. You can attach up to two internal adapters to support network configurations requiring Ethernet, Token-Ring, LocalTalk, serial, infrared, or additional parallel ports. You can even attach a class 1 fax modem to the optional serial port and receive faxes directly to your printer.

The printer also offers flexible paper handling. It supports a wide variety of paper sizes, from A5 to A3 and 11x17 in., and has a standard multipurpose feeder that makes it easy to print on envelopes, transparencies, labels, card stock, and non-standard size paper. You can also add up to two optional drawers, which can increase the printer's total paper capacity to 850 sheets.

Print speed

Your Optra Color 1200 printer can print four-color and mono jobs at up to 12 ppm. With all printers, print speed varies depending on specific characteristics of the job, such as the size of the formatted page, the number of fonts, the number and complexity of images and graphics, and so on. Printing a mix of color and mono jobs may also slow printing, depending on the printer settings you have chosen.

Memory

Your printer ships with 32MB of standard printer memory for fast, efficient processing of color jobs. (Some models may ship with more memory.) If you typically print large, complex jobs, you can install pairs of optional memory cards to increase the total memory to a maximum of 128MB.

Your printer also comes with 4MB of standard flash memory for storing downloaded resources, such as fonts and macros. In addition, you can install an optional hard disk for storing downloaded resources and job statistics, and for spooling or collating print jobs. Resources stored in flash memory or on disk are retained in memory even after the printer is turned off and back on.

Print quality

With standard 600 dpi resolution, your printer provides high quality printouts of all your jobs. In addition, the 1200 Image Quality setting lets you optimize the quality of printed images.

If you sometimes print simple drafts, you can set Toner Saver On to preserve toner, while minimally affecting print quality. If Toner Saver is Off, the printer smooths printed characters for enhanced text printing.

MarkVision

The MarkVision printer utility, included on the CD that was shipped with your printer, provides numerous printer management and color management tools that you can access directly from your computer. MarkVision can display a graphic of your printer indicating the options installed and the location of any printer problems. If your printer is attached to a network and located some distance from your workstation, you can view printer status and change printer settings without leaving your desk. You can also use MarkVision to gather statistics about the jobs you print, or download resources to flash memory or disk.

Paper handling

The printer comes equipped with a 250-sheet paper tray and a multipurpose feeder. (Some models may ship with a second 250-sheet tray.) The multipurpose feeder lets you load a stack of envelopes, transparencies, labels, or card stock for multiple-page jobs. To increase paper feeding capacity, you can attach up to two optional drawers, each with a 250-sheet tray.

2 Changing printer settings

Read this chapter for details about the printer settings you can change to control printer function. To make it easy for you to find the information you need, the chapter is organized according to the structure of the printer operator panel menus. However, you can also change many of these settings from your application, from a Lexmark printer driver, or from the MarkVision printer utility.

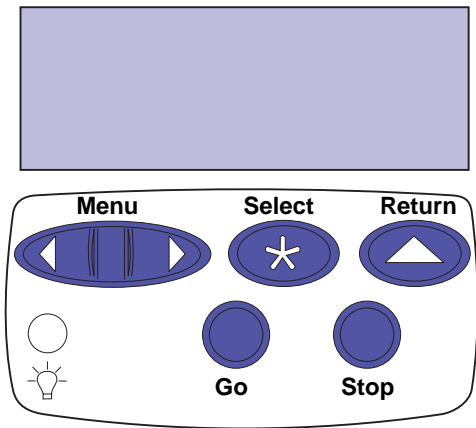
Note: Printer settings selected from a software application or driver override default settings selected from the operator panel.

If there is a printer feature you cannot control from the application or printer driver, use the printer operator panel or the remote operator panel available from MarkVision. Keep in mind, however, that changing a printer setting from the operator panel or from MarkVision makes that setting the user default for all subsequent jobs sent to the printer. In most cases, settings you change from the application or driver apply only to the job you are preparing to send to the printer.

Using the operator panel

The operator panel on the top of your printer has a 2-line by 16-character liquid crystal display (LCD), five buttons, and one indicator light.

The light indicates whether the printer power is on and whether the printer is idle or busy processing a job.



Indicator light

State	Indicates
Off	Printer power is off.
On	Printer is on, but idle.
Flashing	Printer is busy processing a job.

Use the five operator panel buttons to open a menu, scroll through a list of values, select printer settings, and clear error messages. Detailed instructions for changing a printer setting begin on page 9.

Operator panel buttons

Button	Function
Go	<p>Press the Go button to:</p> <ul style="list-style-type: none">Exit printer menus and return the printer to the ready stateClear certain messages from the display <p>If you've changed printer settings from the operator panel menus, press Go before you send a job to print.</p>
Menu > and <Menu	<p>Press the Menu> or <Menu button to:</p> <ul style="list-style-type: none">Enter the menus from the ready stateScroll to the next (Menu>) or the previous (<Menu) menu, menu item, or valueIncrease or decrease a numerical value for a menu item settingDisplay the Job Menu or the Supplies Menu while the printer is busy
Select	<p>Press the Select button to:</p> <ul style="list-style-type: none">Select the menu shown on the second line of the display and view the available menu itemsSelect the menu item shown on the second line of the display and view the available values and the current user default setting for that menu itemSave the value displayed on the second line of the display as the new user default settingClear certain messages from the display

Operator panel buttons (continued)

Button	Function
Return	Press the Return button to back up to the previous level of the menu structure without selecting a new menu item or value.
Stop	<p>Press the Stop button when the printer displays the Busy or Waiting message to temporarily stop all activity. The message Not Ready is then displayed until you press Go to continue printer activity.</p> <p>For example, if you need to load paper in a tray while a job is printing, press Stop and wait for the printer motors to idle before removing the tray from the printer. Reinsert the loaded tray, and then press Go.</p>

MarkVision's remote operator panel

The MarkVision utility has a remote operator panel that displays an exact replica of the printer operator panel on your computer screen. You can use the remote operator panel to check printer status and change printer settings just as you would the printer operator panel. If the printer is located some distance from your computer, it may be more convenient to use the remote operator panel on your computer.

In addition to the remote operator panel, some versions of MarkVision also provide a way to view many of the menu items for one menu on a single screen. If you need to make several changes to settings in the Paper Menu, for example, you may find it easier to make those changes when you can see all of the menu items and their available values at one time. That eliminates the time required to scroll through the various menu items and values when using the remote operator panel and its two-line display.

For additional information about MarkVision, see page 131.

Menus

A number of menus are available to make it easy for you to change printer settings. The diagram on page 12 shows the menus and all of the menu items available in each menu. The items in each menu and the values you can select are described in more detail in the tables beginning on page 13.

Some of the menu items or values are displayed only if a specific option is installed on the printer. Other menu items may only be effective for a particular printer language. You can select these values at any time, but they only affect printer function when you use the specified printer language.

An asterisk (*) next to a value in the tables indicates the factory default setting. Factory defaults may differ for different countries. When you select a new setting from the operator panel, the asterisk moves next to the selected setting to identify it as the current user default. These settings remain active until new ones are selected or the factory defaults are restored.

See “Changing menu settings” on page 9 for instructions on how to select a new setting.

Printing current menu settings

You can print a list of the current user default settings at any time.

Note: Before printing the menu settings page, make sure the selected paper source holds A4, letter, or legal size paper and the Paper Type setting for the source is Plain Paper.

- 1 From the operator panel, press Menu> or <Menu to enter the menus.**
- 2 Continue to press and release Menu> or <Menu until you see TESTS MENU.**
- 3 Press the Select button.**
TESTS MENU is then displayed on the first line, and **Print Menus** is on the second line.
- 4 Press Select again to print the page.**

The message **Printing Menu Settings** is displayed. The printer returns to the ready state after the list of user default settings prints.

If an error message appears on the display, see “Understanding printer messages” on page 100.

Changing menu settings

Note: Remember that settings you choose from your software application or printer driver override the user default settings you set from the operator panel menus.

Follow the steps below to change a user default setting from the menus:

- 1 From the operator panel, press Menu> or <Menu.**
- 2 Continue to press and release Menu> or <Menu until the menu you want appears on the second line of the display.**

The menus and their menu items are listed on page 12.
- 3 Press Select to display the list of menu items for the selected menu.**
- 4 Press Menu> or <Menu until the menu item you need appears on the second line.**
- 5 Press Select to display a list of available values for the menu item.**

An asterisk (*) appears beside the current user default setting for that menu item.

Some menu items have submenus. For example, if you select the Paper Menu, and then select the Paper Type menu item, you must select another menu (such as Tray 1 Type) before the available values are displayed.

A value can be:

- An On or Off setting
- A phrase or word that describes a setting
- A numerical value that you can increase or decrease

- 6 Press Menu> or <Menu to scroll through the list of values.**

- 7 When the value you want appears on the second line of the display, press **Select** to make the value the new user default setting.

An asterisk appears beside the value to indicate that it is now the user default setting. The display shows the new setting for one second and then clears and shows the word **Saved**. It then displays the previous list of menu items.

- 8 Press **Return** if you need to go back to previous menus or menu items and select other user defaults.
- 9 Press **Go** if you have finished changing menu settings.

User default settings remain in effect until you save new settings or restore the factory defaults.

Locking the menus

To lock the menus so that changes cannot be made to the user default settings:

- 1 Turn the printer off.
- 2 Press and hold the **Go** and **Stop** buttons and turn the printer on.
- 3 Release the buttons when **Performing Self Test** is displayed.

Locking Menu appears on the display. When the printer self test is complete, the **Ready** message is displayed.

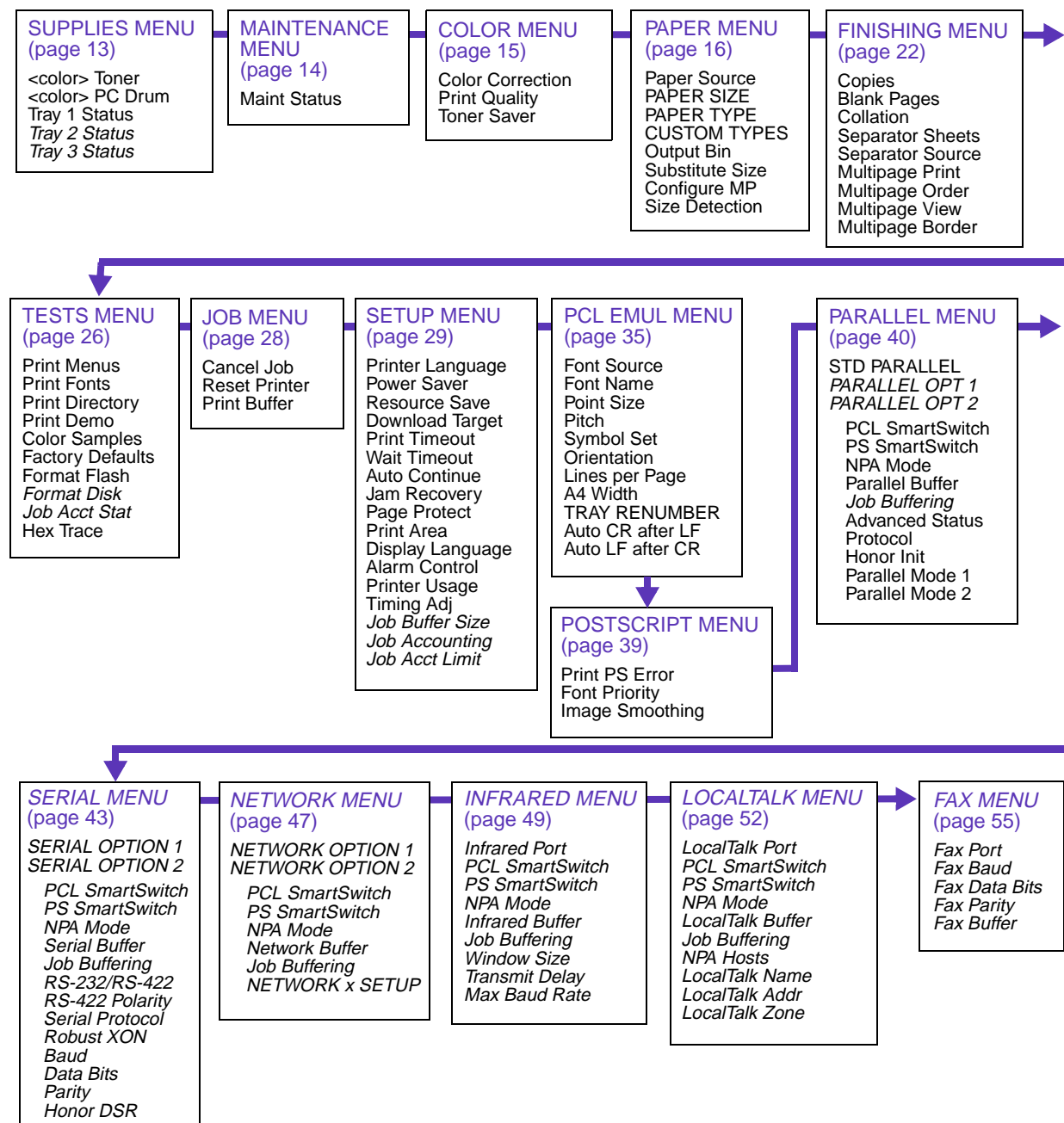
If you press **Menu>** or **<Menu**, the **Menus Disabled** message is displayed.

To unlock the menus, repeat steps 1–3 above.

If you want to disable the button sequence so users cannot easily lock or unlock the menus from the printer operator panel, change the password variable of the PjL JOB command. Select any non-zero value for the password variable to prevent the button sequence from unlocking (or locking) the menus. Refer to the printer *Technical Reference* for more information about PjL commands.

Menu overview

Menus or menu items in *italics> are displayed only when the required option is installed. Capitalized menu items (for example, PAPER SIZE) have submenus. Refer to the tables on the following pages for a listing of the values for each menu item.*



Supplies Menu

The Supplies Menu provides information about printer supplies that require attention. It is only available when a supply is low or needs replacement.

You can view the Supplies Menu when the printer is idle or when the printer is busy processing or printing a job. Press **Menu>** or **<Menu** to open the Supplies Menu. The information in the menu changes as the supplies' status changes, even after you have opened the menu.

Supplies Menu

Menu item	Values
<i>color</i> Toner	Low When a toner cartridge has only enough toner left to print approximately 250 pages, the printer identifies the cartridge in the Supplies Menu (for example, Magenta Toner). When the toner cartridge is completely empty, the printer ceases operation. See page 93 or page 108 for more information.
<i>color</i> PC Drum	Life Warning Exhausted Like the toner cartridge, each of the color photoconductors requires periodic replacement. When a photoconductor (or PC Drum) is nearing the end of its life or needs replacing, the printer displays an item such as Magenta PC Drum in the Supplies Menu. You must replace all three color photoconductors (magenta, cyan, and yellow) at the same time. When you replace the black photoconductor, you must also replace the fuser coating roll. See page 94 or page 108 for more information.
Tray x Status	Missing Low Empty Your printer can detect if a tray is missing, low on paper (less than 50 sheets), or empty. The Supplies Menu lists any of the installed trays (tray 1, tray 2, or tray 3) that meets any of these three conditions.

Maintenance Menu

The Maintenance Menu provides information about printer parts that need replacement by a service technician. The menu is only available when this condition exists.

Maintenance Menu

Menu item	Values
Maint Status	<p>Life Warning</p> <hr/> <p>The printer requires replacement of routine maintenance items, such as the fuser and transport belt, to maintain top performance and avoid print quality and paper feed problems. This menu appears when the printer maintenance counter determines 100,000 pages have printed.</p> <p>These maintenance items are in a kit available from Lexmark. You must have a trained service technician install the maintenance kit. Failure to replace these items will not interrupt printer operation, but can result in unsatisfactory performance of the printer.</p> <p>See page 98 for more information about ordering a maintenance kit.</p>

Color Menu

Use the Color Menu to make print quality adjustments and customize color printing.

Color Menu

Menu item	Values
Color Correction	<p>Vivid* RGB CMYK Black & White Display</p> <hr/> <p>The Color Correction setting lets you adjust the printed color to better match the colors of other output devices or standard color systems. For example, if you want your printed colors to simulate the colors on your computer screen, choose Display. If you are using a software application that has its own color correction, choose CMYK. The Vivid setting (the default) produces bright and well saturated colors for transparencies and general business graphics. For more information, see page 61.</p>
Print Quality	<p>Graphics* Images 1200 Image Q</p> <hr/> <p>The default setting, Graphics, provides high quality output for text and business graphics, such as line art and electronically generated charts.</p> <p>If you need to print jobs composed largely of image data (scanned photos or video frames, for example), you may want to select Images. The Images setting enhances the quality of printed images on the page, while maintaining high quality text and graphics.</p> <p>For the best overall print quality when printing jobs containing images, text, and graphics, select 1200 Image Quality. This setting may require more memory than the other two settings to process a particular job, and may slow print speed. However, the 1200 Image Quality setting delivers the highest quality output, with crisp text and graphics and exceptionally high quality images.</p> <p>See page 62 for more information about the Print Quality settings.</p>
Toner Saver	<p>Off* On</p> <hr/> <p>To get the most from your toner supply, set Toner Saver On. Toner Saver reduces the amount of toner used on the printed page and may help lower the cost of printing.</p> <p>When Toner Saver is Off, the printer smooths printed characters to improve the appearance of text.</p>
*Factory default	

Paper Menu

Use the Paper Menu to define all settings relating to the media you load in your printer.

Paper Menu

Menu item	Values
Paper Source	<p>Tray 1*</p> <p>Tray 2</p> <p>Tray 3</p> <p>MP Feeder</p> <p>Manual Paper</p> <p>Manual Env</p> <hr/> <p>The Paper Source setting identifies the default paper source. Only installed paper sources are displayed.</p> <p>The MP Feeder (multipurpose feeder) value is displayed only if the Configure MP menu item is set to Cassette. If Paper Source is set to MP Feeder and Configure MP is then changed to Manual or First, the Paper Source setting automatically changes to Tray 1.</p> <p>If you are using the same size and type of media in two or more paper sources (and the Paper Type settings are correct), the trays are automatically linked. When one tray is empty, paper feeds from the other tray.</p>
Paper Size	<p>Tray 1 Size</p> <p>Tray 2 Size</p> <p>Tray 3 Size</p> <p>(Select the Tray x Size setting by adjusting the rear paper guide in the tray.)</p> <p>MP Feeder Size</p> <p>A4* (Country specific)</p> <p>A5</p> <p>JIS B4</p> <p>JIS B5</p> <p>Letter* (Country specific)</p> <p>Legal</p> <p>A3</p> <p>11x17</p> <p>Universal</p> <p>7 3/4 Envelope</p> <p>9 Envelope</p> <p>10 Envelope* (Country specific)</p> <p>DL Envelope* (Country specific)</p> <p>C5 Envelope</p> <p>B5 Envelope</p> <p>Other Envelope</p>
*Factory default	

Paper Menu (continued)

Menu item	Values
Paper Size (continued)	<div>Manual Pap Size</div> <div>A4* (Country specific)</div> <div>A5</div> <div>JIS B4</div> <div>JIS B5</div> <div>Letter* (Country specific)</div> <div>Legal</div> <div>A3</div> <div>11x17</div> <div>Universal</div> <div>Manual Env Size</div> <div>7 3/4 Envelope</div> <div>9 Envelope</div> <div>10 Envelope* (Country specific)</div> <div>DL Envelope* (Country specific)</div> <div>C5 Envelope</div> <div>B5 Envelope</div> <div>Other Envelope</div> <div><hr/></div> <div>The Paper Size setting identifies the default formatting size for each paper source. See page 73 for a list of the dimensions for each paper and envelope size.</div> <div>Trays 1, 2, and 3 have size sensing. The printer automatically determines the size of the paper installed in the tray and displays <i>only</i> that size as the default in the Paper Size menu. You cannot change the default paper size for these trays from the operator panel. To set the paper size, adjust the rear paper guide to the appropriate position in the tray. See page 72 for a listing of the paper sizes the trays support.</div> <div>The printer can only recognize A3 and B4 size paper <i>or</i> 11x17 and legal size paper. You must decide which of the pairs of paper sizes you want your trays to support. (You can still load the paper sizes you don't select in the multipurpose feeder.) Select the appropriate setting from the Size Detection menu item. See page 21 for more information.</div> <div>For paper and envelope sources without size sensing (manual feed and the multipurpose feeder), it is important to select the correct paper size from the menu. The MP Feeder Size menu item is displayed only if the Configure MP menu item is set to Cassette.</div> <div>Select Universal from the Paper Size menu when you load media in the multipurpose feeder that doesn't match any of the standard sizes. The printer formats the page for 11.7 x 17 in. (297 x 432 mm). You can then set the margins for the actual page size from your software application.</div>
*Factory default	

Paper Menu (continued)

Menu item	Values
Paper Type	Tray 1 Type Plain Paper* Bond Letterhead Preprinted Colored Paper Transparency Custom Type 1 Custom Type 2 Custom Type 3 Custom Type 4 Tray 2 Type Plain Paper Bond Letterhead Preprinted Colored Paper Custom Type 1 Custom Type 2* Custom Type 3 Custom Type 4 Tray 3 Type Plain Paper Bond Letterhead Preprinted Colored Paper Custom Type 1 Custom Type 2 Custom Type 3* Custom Type 4
*Factory default	

Paper Menu (continued)

Menu item	Values
Paper Type (continued)	MP Feeder Type Plain Paper Bond Letterhead Preprinted Colored Paper Transparency Labels Card Stock Envelope Custom Type 1 Custom Type 2 Custom Type 3 Custom Type 4* Manual Pap Type Plain Paper* Bond Letterhead Preprinted Colored Paper Transparency Labels Card Stock Custom Type 1 Custom Type 2 Custom Type 3 Custom Type 4 Manual Env Type Envelope* Custom Type 1 Custom Type 2 Custom Type 3 Custom Type 4
*Factory default	

Paper Menu (continued)

Menu item	Values
Paper Type (continued)	<p>The Paper Type setting lets you specify the type of media installed in each source. The printer uses the Paper Type setting to optimize print quality for the media you specified.</p> <p>For example, if you set Tray 1 Type to Transparency, the printer heats the fuser to a higher temperature and slows printing to produce the best transparency possible. If you then change Tray 1 Type to Plain Paper, there is a slight delay while the printer cools to the appropriate temperature for printing paper.</p> <p>You can also select paper sources from your software application simply by specifying a paper type and size. Or, use the MarkVision utility to define names for up to four Custom Types identifying special print materials. For example, if you are using names for three different letterheads for different individuals in your workplace, you can define a custom type for each individual's letterhead. If you're not sure which source contains the letterhead you need, you can specify the Custom Type from the software application or driver, and the printer will feed paper from the proper source.</p> <p>The correct Paper Type setting, along with the Paper Size setting, is also critical for the automatic tray linking function. If you have the same paper loaded in two paper sources and want to enable tray linking, set the Paper Type for each source to the same value. When one tray is empty, the printer then automatically feeds paper from the other tray.</p> <p>A simple way to disable tray linking is to set Tray 1 Type to Custom Type 1, Tray 2 Type to Custom Type 2, and Tray 3 Type to Custom Type 3 (if those three custom types are not predefined for other special media).</p> <p>The MP Feeder Type menu item is displayed only if the Configure MP menu item is set to Cassette.</p>
Custom Types	<p>Custom Type x (where x represents a custom type from 1 to 4)</p> <p>Paper* Card Stock Transparency Labels</p> <hr/> <p>The Custom Type x setting specifies the print material for each of the Custom Types (1–4) defined in the Paper Type menu item. If a user-defined name is available, the name is displayed instead of Custom Type x.</p>
Output Bin	<p>Top Output* Rear Output</p> <hr/> <p>Select Top Output to collate jobs face down. Select Rear Output to create a straight paper path from the multipurpose feeder to the rear output bin. This may be useful when printing on heavier media, such as transparencies, envelopes, labels, or card stock. Printed pages stack face up and uncollated in the rear output bin.</p> <p>If you select Rear Output, make sure you've attached the rear output bin. Refer to the <i>Setup Guide</i> for installation instructions.</p>
*Factory default	

Paper Menu (continued)

Menu item	Values
Substitute Size	<p>Off*</p> <p>Letter / A4</p> <p>11x17 / A3</p> <p>All Listed</p> <hr/> <p>Select Letter / A4 if you want the printer to automatically print A4 jobs on letter size paper and letter jobs on A4 size paper, if the requested size is not currently installed in the printer. Likewise, select 11x17 / A3 if you want the printer to automatically print 11x17 jobs on A3 size paper and A3 jobs on 11x17 size paper, if the requested size is not available.</p> <p>Select All Listed if you want to substitute paper sizes in both cases.</p> <p>If the printer substitutes a paper size other than the one requested for the job, the printer may have to clip the image to fit on the new page size. Some data may be lost.</p> <p>If you do not want the printer to substitute paper sizes automatically, select Off. The printer then prompts you to load the requested paper size, if it is not installed.</p>
Configure MP	<p>Cassette*</p> <p>Manual</p> <p>First</p> <hr/> <p>When the multipurpose feeder (MP) is configured as a Cassette, the printer treats it like any other tray. If a print job requests a size paper that is only loaded in the multipurpose feeder, the printer picks paper from the multipurpose feeder to print the job.</p> <p>Set Configure MP to Manual to use the multipurpose feeder strictly for manual feed of single sheets or envelopes.</p> <p>If you set Configure MP to First, the printer feeds paper from the multipurpose feeder until it is empty, regardless of the paper source or paper size requested for the job. When the multipurpose feeder is empty, the printer then feeds paper from the source containing the requested size.</p>
Size Detection	<p>A3 & B4* (Country specific)</p> <p>11x17 & Legal* (Country specific)</p> <hr/> <p>The printer determines the size paper loaded in the trays by the position of the rear paper guide. However, the printer can only recognize A3 and B4 size paper <i>or</i> 11x17 and legal size paper. You must decide which of the pairs of paper sizes you want your trays to support. (You can still load the paper sizes you don't select in the multipurpose feeder.) For example, if you select A3 & B4 and send a job formatted for legal size paper, the printer displays a message asking you to load legal size paper in the multipurpose feeder.</p> <p>Note: Changing the Size Detection setting automatically resets the printer.</p>
*Factory default	

Finishing Menu

Use the Finishing Menu to specify the final output of your jobs, including the number of copies, whether you want to insert separator pages between jobs, and how many page images you want to print on each sheet of paper.

Finishing Menu

Menu item	Values
Copies	<div>1*...999</div> <div>The Copies setting determines the number of copies printed for each page. The printer does not automatically collate the copies printed. For example, if you send a three-page job to print and set Copies to 2, the printer prints page 1, page 1, page 2, page 2, page 3, page 3.</div> <div>Note: Selecting the number of copies from the operator panel changes the printer default and affects all subsequent jobs.</div>
Blank Pages	<div>Do Not Print*</div> <div>Print</div> <div>Set Blank Pages to Print to include application-generated blank pages with your print job.</div>
Collation	<div>Off*</div> <div>On</div> <div>Set Collation On to collate multiple copies of a job. For example, if you send a three-page job to print and set Copies to 2, the printer prints page 1, page 2, page 3, page 1, page 2, page 3.</div> <div>When Collation is Off, the printer prints each page of a job the number of times specified by the Copies setting. For example, if you send a three-page job to print and set Copies to 2, the printer prints page 1, page 1, page 2, page 2, page 3, page 3.</div> <div>Many applications collate multiple copies of a print job by repeatedly sending the job to the printer, until the correct number of copies has printed. If Copies is set to 2, for example, the printer actually processes the same job twice. However, if you set Collation On from the printer operator panel or from MarkVision, the printer processes the file only once, saves the file in printer memory (or in the optional hard disk, if installed), and then prints the specified number of copies. This saves processing time for the printer and the application, and may reduce overall printing time.</div> <div>For Collation to work effectively, your software application must recognize this printer feature and not send the job to the printer multiple times. Your application must also let you specify the number of copies needed <i>or</i> recognize the printer default setting for Copies.</div> <div>You can select Collation from the printer operator panel or from the printer driver. For best results, select <i>Collated</i> in the printer driver and set the number of copies to one. In your application, select <i>Uncollated</i> (if the option is available) and the number of copies you want.</div> <div>If the job is complex or exceeds the printer's storage capacity, you may receive an Insufficient Collation Area message. Press Go to clear the message. The printer collates the remaining pages in memory. If you reset the printer, the printer discards the job.</div>
*Factory default	

Finishing Menu (continued)

Menu item	Values
Separator Sheets	<div>None*</div> <div>Between Copies</div> <div>Between Jobs</div> <div>Between Pages</div> <div></div> <div>You can have the printer insert blank separator sheets between jobs, between multiple copies of a job, or between each page of a job. Separator sheets are pulled from the source identified in the Separator Source menu item.</div> <div>Select Between Copies for multiple copy jobs. If Collation is Off, a blank page is inserted between sets of each printed page. If Collation is On, a blank page is inserted between each copy of the job.</div> <div>If you select Between Jobs, a blank page is inserted after each print job. This may be helpful when several people are using the printer in a network environment.</div> <div>When you select Between Pages, a blank page is inserted between each page of a job. This may be useful if you are printing transparencies and want to reduce static build-up when stacking transparencies in the output bin.</div>
Separator Source	<div>Tray 1*</div> <div>Tray 2</div> <div>Tray 3</div> <div>MP Feeder</div> <div></div> <div>If you're using separator sheets, the Separator Source menu item lets you specify the tray that holds the separator sheets.</div> <div>Only installed paper sources are displayed as values. You can only select MP Feeder as the separator source if the Configure MP menu item is set to Cassette. If Separator Source is set to MP Feeder and Configure MP is set to Manual or First, the Separator Source setting automatically changes to Tray 1.</div>
Multipage Print	<div>Off*</div> <div>2-Up</div> <div>3-Up</div> <div>4-Up</div> <div>6-Up</div> <div>9-Up</div> <div>12-Up</div> <div>16-Up</div> <div></div> <div>Choose a Multipage Print value to print images of the specified number of pages on one sheet of paper. The printer automatically reduces the image of each page so the specified number of images fits on one sheet.</div> <div>For example, select 4-Up to print reduced images of pages 1–4 of your document on the first sheet of paper, pages 5–8 on the second sheet, and so on.</div>
*Factory default	

Finishing Menu (continued)

Menu item	Values
Multipage Order	<div>Horizontal*</div> <div>Vertical</div> <div>Rev Horizontal</div> <div>Rev Vertical</div> <div></div> <div>Use the Multipage Order setting to determine the sequence of the page images on each sheet of a multipage print job. The actual order of the pages depends on whether the individual page images use portrait or landscape orientation.</div> <div>For example, choose Horizontal to position portrait images in rows from left to right, from the top of the page to the bottom. Choose Vertical to position the images in columns from top to bottom, left to right.</div> <div><div>4-up print job (portrait orientation)</div><div><div>Horizontal</div><div><div>Page 1</div><div>Page 2</div><div>Page 3</div><div>Page 4</div></div><div>Vertical</div><div><div>Page 1</div><div>Page 3</div><div>Page 2</div><div>Page 4</div></div></div></div>
*Factory default	

Finishing Menu (continued)

Menu item	Values
Multipage View	<div>Auto*</div> <div>Long Edge</div> <div>Short Edge</div> <div></div> <div>When using multipage printing, the printer by default automatically chooses whether to position the top of each page image along the long edge of the sheet or along the short edge, depending on how it can best fit the selected number of images on the sheet. For example, when printing portrait pages 2-up with Horizontal order selected, the printer positions the top edge of the images along the long edge of the page. When printing the same job 4-up, the printer positions the top edge of the images along the short edge of the page.</div> <div>Auto setting (horizontal order)</div> <div><div>2-up</div><div><div>Page 2</div><div>Page 1</div></div><div>4-up</div><div><div>Page 1Page 2</div><div>Page 3Page 4</div></div></div> <div>If you prefer to have the page images always oriented along the long edge or along the short edge of the sheet, select Long Edge or Short Edge as the user default.</div>
Multipage Border	<div>None*</div> <div>Solid</div> <div></div> <div>Select Solid to print a border around each page image when using multipage printing.</div>
*Factory default	

Tests Menu

Use the Tests Menu to print a variety of listings relating to available printer resources, printer settings, and print jobs. Additional menu items let you set up printer hardware and troubleshoot printer problems.

Tests Menu

Menu item	Values
Print Menus	Press Select to print a page detailing the user default setting for each menu item, the installed options, the amount of installed printer memory, the printer software code levels, the total count of printed pages, and the printer serial number. You can only print the menu settings page on A4, letter, and legal size paper.
Print Fonts	PCL Fonts PS 2 Fonts Select PCL Fonts or PS 2 Fonts to print a sample of all the fonts currently available in the specified printer language.
Print Directory	Press Select to print a list of all the resources stored in flash memory or on disk. Refer to the <i>Technical Reference</i> for details.
Print Demo	List of demo files stored in flash memory or on optional hard disk Select the Print Demo menu item to view a list of the demo files stored in your printer. Press Menu> or <Menu to scroll through the list of Lexmark demo pages, as well as any other demo pages you may have stored in your printer. Refer to the <i>Technical Reference</i> for more information about creating demo pages.
Color Samples	Select this menu item to print a multipage color sample. The sample may take a few minutes to print. To cancel the print job, press Menu> or <Menu to display the Job Menu, and then select Cancel Job. Use the sample to choose colors for your applications. The printout also details the RGB and CMY percentages for easy reference.
Factory Defaults	Restore Do Not Restore When you choose to restore the factory default settings: <ul style="list-style-type: none"> • All downloaded resources (fonts, macros, symbol sets) in printer memory (RAM) are deleted. (Resources residing in flash memory or on hard disk are unaffected.) • All menu settings are returned to the factory default values <i>except</i>: <ul style="list-style-type: none"> – Display Language – Job Buffer Size – All settings in the Parallel Menu, Serial Menu, Fax Menu, Network Menu, Infrared Menu, and LocalTalk Menu. <p>Note: An asterisk (*) appears next to the factory default value for each of the menu items listed in this chapter.</p>

Tests Menu (continued)

Menu item	Values
Format Flash	<p>Yes No</p> <hr/> <p>Formatting flash memory deletes all resources (fonts, macros) stored in flash memory and prepares flash memory to receive new resources. You may want to select Print Directory before you format the flash memory to determine what resources, if any, are stored in flash.</p> <p>The Format Flash menu item is not displayed if the flash memory is Read/Write or Write protected.</p> <p>Warning: If you select Format Flash and then press Go, any data stored in flash memory is lost. <i>Do not turn the printer off while the flash is formatting.</i></p>
Format Disk	<p>Yes No</p> <hr/> <p>Formatting the hard disk option deletes all resources stored on the hard disk and prepares the disk to receive new resources. You may want to select Print Directory before you format the disk to determine what resources, if any, are stored on the disk.</p> <p>The Format Disk menu item is not displayed if the installed option is defective or is Read/Write or Write protected. Format Disk is also not displayed if Job Buffer Size is set to 100%.</p> <p>Warning: If you select Format Disk and then press Go, any data stored on the hard disk is lost. <i>Do not turn the printer off while the hard disk is formatting.</i></p>
Job Acct Stat	<p>Print Clear</p> <hr/> <p>If you have an optional disk installed in your printer and you are using the printer's Job Accounting function, you can choose to print a list of statistics for a defined number of the most recent print jobs. (The number of jobs is determined by the value of the Job Acct Limit menu item in the Setup Menu.) The statistics include whether the job printed with or without errors, the time required to print the job, the size (in bytes) of the job, the requested paper size and paper type, the total number of printed pages, and the number of copies requested.</p> <p>Select Clear to delete all accumulated job statistics from the optional disk.</p> <p>Note: You cannot print a list of statistics if the disk is read/write protected. You cannot clear job statistics from the disk if the disk is write protected or read/write protected.</p>
Hex Trace	<p>Press Select to enter Hex Trace mode.</p> <p>Hex Trace helps isolate the source of a print job problem. With Hex Trace selected, all data sent to the printer is printed in hexadecimal and character representation. Control codes are not executed.</p> <p>To exit Hex Trace, turn the printer off, or reset the printer. To reset the printer, press Menu> or <Menu. The Job Menu is displayed. Press Menu> or <Menu until Reset Printer is on the second line. Press Select.</p>

Job Menu

The Job Menu is available when the printer is idle, when the printer is busy processing or printing a job, when a printer message is displayed, or when the printer is in Hex Trace mode. Press **Menu>** or **<Menu** to open the Job Menu.

Job Menu

Menu item	Values
Cancel Job	If the printer is processing a job, press Menu> or <Menu to open the Job Menu, and then press Select to cancel the job.
Reset Printer	<p>Press Select to reset the printer.</p> <p>The printer resets to the user default setting for each menu item. All downloaded resources (fonts, macros, symbol sets) in printer memory (RAM) are deleted. All data on the currently selected host interface is deleted from the interface link buffer.</p> <p>Note: Before selecting Reset Printer, exit the software application you are using.</p>
Print Buffer	<p>Press Select to print any data stored in the print buffer.</p> <p>This menu item is only available when you enter the Job Menu while the Waiting message is displayed. The Waiting state occurs if an incomplete job is sent to the printer or if an ASCII job is being printed. Examples include sending a print screen command from your host computer or copying a DOS file.</p>

Setup Menu

Use the Setup Menu to configure a variety of printer features.

Setup Menu

Menu item	Values
Printer Language	<p>PCL Emulation PS 2 Emulation*</p> <hr/> <p>The printer language defines how the computer communicates with the printer. Your computer uses printer languages, such as PCL emulation and PostScript Level 2 emulation, to send print data to the printer. Setting a printer language as the default does not prevent the software application from sending print jobs that use the other printer language.</p>
Power Saver	<p>Disabled 1...120 (20*)</p> <hr/> <p>The Power Saver menu item lets you reduce power usage when the printer is idle. The Power Saver setting determines the length of time (in minutes) the printer waits after a job is printed before it goes to a reduced power state.</p> <p>If you have selected a Power Saver value, the message Power Saver replaces the Ready message on the operator panel display when the printer is in a ready state (after the time specified by the Power Saver setting has elapsed). This is the printer default. Both messages indicate the printer is ready to receive jobs.</p> <p>If your printer is in constant use, select a high setting, such as 120. Under most circumstances, this keeps the printer ready to print with minimum warm-up time. However, it also uses more energy.</p> <p>Setting Power Saver to 1 puts the printer in Power Saver mode one minute after it finishes printing each job. This uses much less energy, but requires more warm-up time for the printer. If your printer shares an electrical circuit with room lighting and you notice lights flickering, you may want to set Power Saver to 1.</p> <p>If you want a balance between energy consumption and a shorter warm-up period, select a Power Saver value between 1 and 120 minutes.</p>
Resource Save	<p>Off* On</p> <hr/> <p>The Resource Save setting determines what the printer does with resources downloaded to RAM if the printer receives a job that requires more memory than is available.</p> <p>If Resource Save is On, the printer retains all permanent downloaded resources for all printer languages during language changes and printer resets. If the printer runs out of memory, the message Memory Full appears on the display.</p> <p>If Resource Save is Off, the printer retains permanent downloaded resources only until memory is needed. Then it deletes those resources stored for the inactive printer language.</p> <p>See page 66 for information about adding memory to your printer.</p>
*Factory default	

Setup Menu (continued)

Menu item	Values
Download Target	<div>RAM*</div> <div>Flash</div> <div>Disk</div> <div></div> <div>The Download Target menu item specifies where you want to store downloaded resources.</div> <div>Storing downloaded resources in flash memory or an optional hard disk is permanent storage rather than the temporary storage that RAM provides. You can add resources to flash memory or disk until the device is full. Use your software application or the MarkVision printer utility to download resources to the printer.</div> <div>The Download Target menu item is only displayed if the flash memory or hard disk is not defective or Read/Write or Write protected. Disk is not an available value for Download Target if Job Buffer Size is set to 100%.</div>
Print Timeout	<div>Disabled</div> <div>1...255 (90*)</div> <div></div> <div>The Print Timeout setting determines the time (from 1 to 255 seconds) the printer waits before printing the last page of a print job that does not end with a command to print the page. The print timeout counter does not start until the printer displays the Waiting message.</div> <div>When a print timeout occurs, the printer stores the page in the print buffer.</div> <div>When Print Timeout is disabled, the printer does not print the last page of a print job until one of the following occurs:</div> <div><ul style="list-style-type: none">• The printer receives enough information to fill the page.• The printer receives a Form Feed command.• You select Print Buffer from the Job Menu. See page 28 for more information.</div>
Wait Timeout	<div>Disabled</div> <div>15...65535 (40*)</div> <div></div> <div>The Wait Timeout setting determines the amount of time in seconds the printer waits to receive additional bytes of PostScript data from the computer. When this timeout expires, the print job is canceled. Select Disabled to turn Wait Timeout off.</div> <div>The Wait Timeout menu item is only available when using PostScript Level 2 emulation. The setting has no effect on PCL emulation print jobs.</div>
*Factory default	

Setup Menu (continued)

Menu item	Values
Auto Continue	<div>Disabled*</div> <div>5...255</div> <div></div> <div>Set Auto Continue to a value between 5 seconds and 255 seconds to have the printer automatically continue operating after it detects one of the following errors:</div> <div><div>35 Res Save Off Deficient Memory</div><div>37 Insufficient Collation Area</div><div>38 Memory Full</div><div>39 Complex Page</div><div>52 Flash Full</div><div>53 Unformatted Flash</div><div>54 Parallel Error</div><div>54 Parallel Option x Error</div><div>54 Serial Option x Error</div><div>54 Std Par ENA Connection Lost</div><div>54 Par x ENA Connection Lost</div><div>56 Std Parallel Port Disabled</div><div>56 Parallel Port x Disabled</div><div>56 Serial x Port Disabled</div><div>61 Defective Disk</div><div>62 Disk Full</div><div>63 Unformatted Disk</div><div>80 Scheduled Maintenance</div><div>Print Jobs on Disk?</div></div> <div>If one of these errors occurs and Auto Continue is disabled, the printer stops and waits for operator intervention. When Auto Continue is set to a numerical value, the printer waits for operator intervention for the specified length of time and then automatically resumes processing.</div> <div>The Auto Continue value has one other purpose. If the operator panel has displayed menu information for the specified period of time without a button being pressed, the printer automatically exits the menus and returns to the ready state.</div>
Jam Recovery	<div><div>On</div><div>Off</div><div>Auto*</div></div> <div></div> <div>When Jam Recovery is set Off, the printer does not reprint a page that has jammed.</div> <div>When Jam Recovery is set On, the printer keeps the image for a printed page until the printer signals that the page has successfully exited the printer. The printer reprints all jammed pages.</div> <div>If Jam Recovery is set to Auto, the printer keeps the image and reprints the page unless the memory required to hold the page is needed for other printer tasks.</div>
*Factory default	

Setup Menu (continued)

Menu item	Values
Page Protect	<div>Off*</div> <div>On</div> <div></div> <div>Set Page Protect On to ensure that an entire page is processed before it is printed. This may be helpful if you are having trouble printing a page properly because of complex page errors. If you still cannot print the page after setting Page Protect On, your printer may not have enough memory to process the page. You may have to reduce the size and number of fonts on the page, change the Print Quality setting, or increase the installed printer memory.</div> <div>For most print jobs, you do not need to set Page Protect On. When Page Protect is On, printing may slow.</div>
Print Area	<div>Normal*</div> <div>Whole Page</div> <div></div> <div>Select Whole Page to modify the PCL formatting area and the printer physical print area. Refer to the <i>Technical Reference</i> for more information about printable areas.</div>
Display Language	<div>English*</div> <div>Français</div> <div>Deutsch</div> <div>Italiano</div> <div>Español</div> <div>Dansk</div> <div>Norsk</div> <div>Nederlands</div> <div>Svenska</div> <div>Português</div> <div>Suomi</div> <div>Japanese</div> <div></div> <div>The Display Language setting determines the language of the text that appears on the operator panel display.</div>
Alarm Control	<div>Off</div> <div>Single*</div> <div>Continuous</div> <div></div> <div>If you want the printer alarm to sound any time the printer requires intervention, select Single or Continuous. If you select Single, the printer sounds three quick beeps to let you know operator intervention is required. If you select Continuous, the printer repeats the three beeps every ten seconds.</div> <div>If you do not want the alarm to sound, select Off.</div>
*Factory default	

Setup Menu (continued)

Menu item	Values
Printer Usage	<p>Max Speed* Max Yield</p> <hr/> <p>The Printer Usage setting determines how your printer reacts when it receives mono pages (pages with only black print). The setting you choose affects the overall print speed and how frequently you must replace printer supplies.</p> <p>Select Maximum Speed to ensure the fastest throughput for all jobs. When Maximum Speed is selected, the printer makes no mechanical changes when it detects a mono page. It handles all pages as if they require color printing.</p> <p>Select Maximum Yield to reduce wear of the color toner cartridges and photoconductors and thereby extend the life of the supplies. If the printer detects a mono page, it physically removes the color print units from the paper path to reduce wear. When the printer detects a color page, it must then perform the internal adjustments necessary to synchronize the color print units with the black print unit (see "Timing Adj"). This may slow overall printing time, depending on the mix of mono and color pages.</p> <p>See page 63 for illustrations of the paper path the printer uses for each of the settings. See page 96 for more information about conserving printer supplies.</p>
Timing Adj	<p>Gear Only* Gear and Drum</p> <hr/> <p>The Timing Adjustment menu item determines how the printer calibrates itself when you first turn it on and when switching between mono and color pages. This menu item is only available when the Printer Usage menu item is set to Max Yield.</p> <p>If you select Gear and Drum, the printer synchronizes the black and color toner cartridge drive gears, as well as the black and color photoconductors (drums). This setting guarantees the best print quality, but slows printing.</p> <p>Select Gear Only to minimize the time the printer requires for this calibration. You may notice slightly inconsistent color registration when using this setting.</p>
Job Buffer Size	<p>Disabled* 10...100%</p> <hr/> <p>If you have an optional disk installed in your printer, you can allocate a portion of the available disk space for spooling jobs. You can choose any 1% increment between 10 and 100%. You must select a Job Buffering Size before you can set the Job Buffering menu item On for a particular port.</p> <p>Warning: If you change the job buffer size, the printer formats the hard disk, and all resources stored on the disk are deleted.</p> <p>The Job Buffer Size menu item is only displayed if the installed disk option is formatted and is not defective or Read/Write or Write protected.</p>
*Factory default	

Setup Menu (continued)

Menu item	Values
Job Accounting	<p>Off*</p> <p>On</p> <hr/> <p>If you have an optional disk installed in your printer, set Job Accounting On to use the disk to store statistical information about your printer's most recent jobs. The statistics include whether the job printed with or without errors, the time required to print the job, the size (in bytes) of the job, the requested paper size and paper type, the color settings used, the total number of printed pages, and the number of copies requested.</p> <p>To print a listing of all the accumulated statistics, select Print from the Job Acct Stat menu item in the Tests Menu.</p> <p>The Job Accounting menu item is not displayed if the installed disk option is defective or Read/Write or Write protected, or if the Job Buffer Size menu item is set to 100%.</p>
Job Acct Limit	<p>Disabled</p> <p>10...1000*</p> <hr/> <p>If you have an optional disk installed in your printer, you can use the disk to store statistical information about a specified number of jobs. The value you select from the Job Acct Limit menu item determines the number of jobs for which statistics are stored. Once you reach the job limit, statistics for the oldest job are deleted as new statistics are stored, maintaining statistics for the specified number of jobs.</p> <p>If you select Disabled, the only limit to the number of jobs for which statistics are stored is the memory available on the disk.</p> <p>Warning: When you change the Job Acct Limit value, all statistical information stored on the disk is discarded.</p> <p>The Job Acct Limit menu item is not displayed if the installed disk option is defective or Read/Write or Write protected, or if the Job Buffer Size menu item is set to 100%.</p>
*Factory default	

PCL Emul Menu

Use the PCL Emul Menu to change printer settings that only affect jobs printed using the PCL emulation printer language. For information about the PCL emulation commands supported by your printer, refer to the printer *Technical Reference*.

PCL Emul Menu

Menu item	Values
Font Source	Resident* Download Flash Disk All The Font Source setting determines which fonts appear in the Font Name menu. If a font source is not installed or does not contain any fonts, it is not listed as a value.
Font Name	Font position and font name for all fonts in the selected font source (R0 Courier 10*) Always select the font source before you select a font name. After you select a font source, choose the specific font from the Font Name menu item. The printer displays the font source abbreviation, font ID, and font name for each font. The font source abbreviation is R for resident, F for flash, K for disk, and D for download. To print a font sample list showing all the fonts available for PCL emulation, select Print Fonts and then PCL Fonts from the Tests Menu.
Point Size	1...1008 (in increments of 0.25) (12*) If you chose a scalable typographic font, you can select the point size for the font. Point size refers to the height of the characters in the font. One point equals approximately 1/72 of an inch. You can select point sizes from 1 to 1008 in increments of 0.25 points.
Pitch	0.08...100 (in increments of 0.01) (10*) If you chose a scalable monospaced font, you can select the font pitch. Pitch refers to the number of fixed-space characters in a horizontal inch of type. You can select a pitch from 0.08 to 100 characters per inch (cpi) in increments of 0.01 cpi. For non-scalable monospaced fonts, the pitch is displayed, but it cannot be changed.
*Factory default	

PCL Emul Menu (continued)

Menu item	Values
Symbol Set	<div>List of symbol set IDs and symbol set names</div> <div>10U PC-8* (Country specific)</div> <div>12U PC-850* (Country specific)</div> <div></div> <div>A symbol set is a set of alphabetic and numeric characters, punctuation, and special symbols used when printing with a selected font. Symbol sets support the different requirements for languages or specific applications, such as math symbols for scientific text. The printer displays only the symbol sets supported for the selected font name.</div>
Orientation	<div>Portrait*</div> <div>Landscape</div> <div></div> <div>The Orientation setting determines how the printing is oriented on the page.</div> <div>In Portrait orientation, the printing runs parallel to the short edge of the paper.</div> <div><div>This is PORTRAIT orientation. This is PORTRAIT orientation. This is</div></div> <div>In Landscape orientation, the printing runs parallel to the long edge of the paper.</div> <div><div>This is LANDSCAPE orientation. This is LANDSCAPE orientation.</div></div>
Lines per Page	<div>1...255</div> <div>60* (U.S.)</div> <div>64* (EMEA)</div> <div></div> <div>The Lines per Page setting determines the number of lines that print on each page. The setting can range from 1 to 255 lines per page. The printer sets the amount of space between each line (vertical line spacing) based on the Lines per Page, Paper Size, and Orientation settings. Select the correct Paper Size and Orientation before setting Lines per Page.</div>
*Factory default	

PCL Emul Menu (continued)

Menu item	Values
A4 Width	<div>198 mm*</div> <div>203 mm</div> <div></div> <div>The A4 Width menu item lets you select the width of the logical page for A4 paper. When you select 198 mm, the width of the logical page is compatible with Hewlett-Packard LaserJet printers. When you select 203 mm, the width of the logical page is wide enough to print eighty 10-pitch characters.</div>
Tray Renumber	<div>Assign MP Feeder</div> <div>Assign Tray 1</div> <div>Assign Tray 2</div> <div>Assign Tray 3</div> <div>Assign Man Paper</div> <div>Assign Man Env</div> <div>Off*</div> <div>0...199</div> <div>VIEW FACTORY DEF</div> <div>MPF Default = 8</div> <div>T1 Default = 1</div> <div>T2 Default = 4</div> <div>T3 Default = 5</div> <div>MPap Default = 2</div> <div>MEnv Default = 3</div> <div>Restore Defaults</div> <div>Yes</div> <div>No</div> <div></div> <div>The Tray Renumber menu item provides software compatibility with other Lexmark Optra printers, as well as with other manufacturers' printers. This may be helpful if you have print jobs or applications previously set up for other printers.</div> <div>For example, if you want to use a LaserJet 5 printer driver with an Optra Color 1200 with two optional drawers installed, use the Tray Renumber menu item to set the following values:</div> <div>Assign MP Feeder = 4</div> <div>Assign Tray 1= Off</div> <div>Assign Tray 2 = 5</div> <div>Assign Man Pap = Off</div> <div>Assign Man Env = Off</div> <div>You can then successfully choose the correct paper source with the LaserJet 5 printer driver. Refer to the <i>Technical Reference</i> for more information about assigning source numbers.</div>
*Factory default	

PCL Emul Menu (continued)

Menu item	Values
Auto CR after LF	Off* On The Auto CR after LF setting determines whether the printer automatically performs a carriage return after a line feed control command.
Auto LF after CR	Off* On The Auto LF after CR setting determines whether the printer automatically performs a line feed after a carriage return control command.
*Factory default	

PostScript Menu

Use the PostScript Menu to change settings that only affect jobs printed using the PostScript Level 2 emulation printer language. For information about the PostScript commands supported by your printer, refer to the printer *Technical Reference*.

PostScript Menu

Menu item	Values
Print PS Error	Off* On Set Print PS Error On to print PostScript Level 2 emulation errors. If an error occurs, the job stops processing, the error message prints, and the printer flushes the job. If Print PS Error is set Off and an error occurs, the job flushes without printing the error message.
Font Priority	Resident* Flash/Disk Use the Font Priority menu item to establish the font search order. Select Resident to search the printer's internal memory (ROM) for the requested font before searching flash memory or an optional hard disk. Select Flash/Disk to search the hard disk, if installed, and then search flash memory, before searching for the requested fonts in printer memory.
Image Smoothing	Off* On When you are printing low resolution images, such as images you download from the World Wide Web at 72 dpi, set Image Smoothing On. Image Smoothing enhances the contrast and sharpness of bitmapped images and smooths color transitions. The setting may have no effect on images downloaded at 300 dpi or higher resolution.
*Factory default	

Parallel Menu Use the Parallel Menu to change settings affecting jobs sent to the printer via a parallel interface port.

When you select Parallel Menu from the operator panel, Std Parallel appears on the second line of the display. Press **Select** if you want to change the settings listed in the following table for the standard parallel port.

If you have an optional parallel port adapter installed, select Parallel Menu, and then press **Menu>** or **<Menu** to scroll to Parallel Opt 1 or Parallel Opt 2. When the correct option is displayed, press **Select** to view the menu items listed in the following table.

Parallel Menu

Menu item	Values
PCL SmartSwitch	Off On* Setting PCL SmartSwitch On lets the printer examine the data on the parallel interface connection and select PCL emulation if the data indicates that is the printer language. If both PCL SmartSwitch and PS SmartSwitch are set Off, the printer uses the language specified in the Printer Language menu as the default. If only one SmartSwitch setting is set Off, the printer uses the language that has its SmartSwitch setting set On as the default.
PS SmartSwitch	Off On* Setting PS SmartSwitch On lets the printer examine the data on the parallel interface connection and select PostScript Level 2 emulation if the data indicates that is the printer language. If both PCL SmartSwitch and PS SmartSwitch are set Off, the printer uses the language specified in the Printer Language menu as the default. If only one SmartSwitch setting is set Off, the printer uses the language that has its SmartSwitch setting set On as the default.
*Factory default	

Parallel Menu (continued)

Menu item	Values
NPA Mode	<p>On Off Auto*</p> <hr/> <p>NPA is a mode of bidirectional communication that follows the conventions defined in <i>Network Printing Alliance Protocol, A Printer/Host Control Specification Developed by the NPA</i>.</p> <p>NPA mode requires special processing of the print data. If NPA Mode is set On, the data received must be in NPA format. If not, it is rejected as bad data. If NPA Mode is set Off, the printer does not perform any NPA processing. If NPA Mode is set to Auto, the printer examines the data to determine the format and then processes it in either format.</p> <p>The NPA Mode setting in the Parallel Menu applies only to the parallel interface connection.</p> <p>Note: Changing the NPA Mode setting automatically resets the printer.</p>
Parallel Buffer	<p>Disabled Auto* 3K to maximum size allowed</p> <hr/> <p>You can configure the size of the parallel input buffer to meet the requirements of your system. If the limited size of the input buffer is preventing you from continuing work in your application each time you send a job to the printer, you may want to increase the buffer size.</p> <p>The maximum size depends on the amount of memory in your printer, the size of the other link buffers, and whether the Resource Save setting is On or Off. To maximize the range for the Parallel Buffer size, you can disable or reduce the size of the serial, fax, network, infrared, and LocalTalk buffers. Choose the Auto setting to let the printer automatically calculate a buffer size proportional to the total amount of available printer memory. In most cases, Auto is the recommended setting.</p> <p>See page 67 for a listing of the default buffer sizes for all the interface ports.</p> <p>Note: Changing the Parallel Buffer setting automatically resets the printer.</p>
Job Buffering	<p>Off* On</p> <hr/> <p>If you have an optional disk installed in your printer, you can choose to have jobs that are sent to the parallel port spool to the disk. Spooling jobs to disk may decrease the time required for the printer to accept data from an application, and therefore free the application faster for other work. Since disk memory provides permanent storage, job buffering to disk also prevents the loss of print job data if the printer loses power.</p> <p>The Job Buffering menu item is not displayed if the formatted hard disk is defective, is Read/Write or Write protected, or if Job Buffer Size is set to Disabled in the Setup Menu.</p> <p>See page 68 for more information about job buffering.</p> <p>Note: Changing the Job Buffering setting automatically resets the printer.</p>
*Factory default	

Parallel Menu (continued)

Menu item	Values
Advanced Status	Off On* If Advanced Status is set On, bidirectional communication is enabled through the parallel interface.
Protocol	Standard Fastbytes* You can select Standard or Fastbytes protocol for the parallel interface. Fastbytes is compatible with most existing parallel interface implementations. Use Standard only if you experience parallel interface problems. Refer to the <i>Technical Reference</i> for more information about the parallel interface.
Honor Init	Off* On The Honor Init setting determines whether the printer honors hardware initialization requests from the computer. The computer requests initialization by activating the INIT signal on the parallel interface. Many personal computers activate the INIT signal each time the computer is turned on and off.
Parallel Mode 1	Off On* This setting enables or disables the pull up resistors on the parallel port signals. It is useful for personal computers that have open collector outputs on the parallel port signals. Set Parallel Mode 1 On to disable the resistors or Off to enable the resistors. Refer to the <i>Technical Reference</i> for more information about this setting.
Parallel Mode 2	Off On* This setting determines if the parallel port data is sampled on the leading or trailing edge of strobe. If Parallel Mode 2 is set On, the parallel port data is sampled on the leading edge of strobe. The parallel port data is sampled on the trailing edge of strobe if Parallel Mode 2 is set Off. Refer to the <i>Technical Reference</i> for more information about this setting.
*Factory default	

Serial Menu

Use the Serial Menu to change settings affecting jobs sent to the printer via the serial interface port. This menu is only available if an optional tri-port adapter is installed in your printer.

When you select Serial Menu from the operator panel, Serial Option 1 or Serial Option 2 appears on the second line of the display, depending on whether a tri-port adapter is installed in connector 1, connector 2, or both. When the correct option is displayed, press **Select** to view the menu items listed in the following table.

Serial Menu

Menu item	Values
PCL SmartSwitch	Off On* <hr/> Setting PCL SmartSwitch On lets the printer examine the data on the serial interface connection and select PCL emulation if the data indicates that is the printer language. If both PCL SmartSwitch and PS SmartSwitch are set Off, the printer uses the language specified in the Printer Language menu as the default. If only one SmartSwitch setting is set Off, the printer uses the language that has its SmartSwitch setting set On as the default.
PS SmartSwitch	Off On* <hr/> Setting PS SmartSwitch On lets the printer examine the data on the serial interface connection and select PostScript Level 2 emulation if the data indicates that is the printer language. If both PCL Smartswitch and PS Smartswitch are set Off, the printer uses the language specified in the Printer Language menu as the default. If only one SmartSwitch setting is set Off, the printer uses the language that has its SmartSwitch setting set On as the default.
NPA Mode	On Off Auto* <hr/> NPA is a mode of bidirectional communication that follows the conventions defined in <i>Network Printing Alliance Protocol, A Printer/Host Control Specification Developed by the NPA</i> . NPA mode requires special processing of the print data. If NPA Mode is set On, the data received must be in NPA format. If not, it is rejected as bad data. If NPA Mode is set Off, the printer does not perform any NPA processing. If NPA Mode is set to Auto, the printer examines the data to determine the format and then processes it in either format. The NPA Mode setting in the Serial Menu applies only to the serial interface connection. Note: Changing the NPA Mode setting automatically resets the printer.

*Factory default

Serial Menu (continued)

Menu item	Values
Serial Buffer	<p>Disabled Auto* 3K to maximum size allowed</p> <hr/> <p>You can configure the size of the serial input buffer to meet the requirements of your system. If the limited size of the input buffer is preventing you from continuing work in your application each time you send a job to the printer, you may want to increase the buffer size.</p> <p>The maximum size depends on the amount of memory in your printer, the size of the other link buffers, and whether the Resource Save setting is On or Off. To maximize the range for the Serial Buffer size, you can disable or reduce the size of the parallel, network, infrared, LocalTalk, fax, or other serial buffer. Choose the Auto setting to let the printer automatically calculate a buffer size proportional to the total amount of available printer memory. In most cases, Auto is the recommended setting.</p> <p>See page 67 for a listing of the default buffer sizes for all the interface ports.</p> <p>Note: Changing the Serial Buffer setting automatically resets the printer.</p>
Job Buffering	<p>Off* On</p> <hr/> <p>If you have an optional disk installed in your printer, you can choose to have jobs that are sent to the serial port spool to the disk. Spooling jobs to disk may decrease the time required for the printer to accept data from an application, and therefore free the application faster for other work. Since disk memory provides permanent storage, job buffering to disk also prevents the loss of print job data if the printer loses power.</p> <p>The Job Buffering menu item is not displayed if the formatted hard disk is defective, is Read/Write or Write protected, or if Job Buffer Size is set to Disabled in the Setup Menu.</p> <p>See page 68 for more information about job buffering.</p> <p>Note: Changing the Job Buffering setting automatically resets the printer.</p>
RS-232/RS-422	<p>RS-232* RS-422</p> <hr/> <p>Choose the serial communication configuration for your printer. If RS-422 is selected, Serial Protocol is automatically set to XON/XOFF.</p>
RS-422 Polarity	<p>Normal* Reverse</p> <hr/> <p>If you select RS-422 for the serial communication configuration, you can then select Normal or Reverse polarity.</p>
*Factory default	

Serial Menu (continued)

Menu item	Values
Serial Protocol	DTR* (hardware handshaking) DTR/DSR (hardware handshaking) XON/XOFF (software handshaking) XON/XOFF/DTR (combined handshaking) XON/XOFF/DTR/DSR (combined handshaking) The printer supports hardware handshaking, software handshaking, and combined hardware and software handshaking, as indicated in the list of values for this menu item. Refer to the <i>Technical Reference</i> for more information about serial interface.
Robust XON	Off* On This printer setting only applies to the serial port if Serial Protocol is set to XON/XOFF. When Robust XON is set On, the printer sends a continuous stream of XONs to the host computer to indicate that the serial port is ready to receive more data.
Baud	1200 2400 4800 9600* 19200 38400 57600 115200 If you use a serial interface, you must select the rate at which data is being sent to or from your computer. Refer to the <i>Technical Reference</i> for information about the range of baud values.
Data Bits	7 8* If you use serial interface, select the number of data bits that are sent in each transmission frame. Refer to the <i>Technical Reference</i> for more information about data bits.
*Factory default	

Serial Menu (continued)

Menu item	Values
Parity	Even Odd None* Ignore This setting lets you select the parity for serial input and output data frames. Refer to the <i>Technical Reference</i> for more information about parity.
Honor DSR	Off* On The Honor DSR setting determines whether the printer uses its data set ready (DSR) signal. DSR is one of the handshaking signals for most serial interface cables. The serial interface uses DSR to distinguish data sent by the computer from data created by electrical noise in the serial cable. This electrical noise can cause stray characters to print. Set Honor DSR On to prevent stray characters from printing.
*Factory default	

Network Menu

Use the Network Menu to change settings affecting jobs sent to the printer via the network port. This menu is only available if an optional network adapter is installed in your printer.

When you select Network Menu from the operator panel, Network Option 1 or Network Option 2 appears on the second line of the display, depending on whether a network adapter is installed in connector 1, connector 2, or both connectors. When the correct option is displayed on the second line, press **Select** to view the menu items listed in the following table.

Network Menu

Menu item	Values
PCL SmartSwitch	<div>Off</div> <div>On*</div> <div></div> <div>Setting PCL SmartSwitch On lets the printer examine the data on the network interface connection and select PCL emulation if the data indicates that is the printer language.</div> <div>If both PCL SmartSwitch and PS SmartSwitch are set Off, the printer uses the language specified in the Printer Language menu as the default. If only one SmartSwitch setting is set Off, the printer uses the language that has its SmartSwitch set On as the default.</div>
PS SmartSwitch	<div>Off</div> <div>On*</div> <div></div> <div>Setting PS SmartSwitch On lets the printer examine the data on the network interface connection and select PostScript Level 2 emulation if the data indicates that is the printer language.</div> <div>If both PCL SmartSwitch and PS SmartSwitch are set Off, the printer uses the language specified in the Printer Language menu as the default. If only one SmartSwitch setting is set Off, the printer uses the language that has its SmartSwitch setting set On as the default.</div>
NPA Mode	<div>Off</div> <div>Auto*</div> <div></div> <div>NPA is a mode of bidirectional communication that follows the conventions defined in <i>Network Printing Alliance Protocol, A Printer/Host Control Specification Developed by the NPA</i>.</div> <div>NPA mode requires special processing of the print data. If NPA Mode is set On, the data received must be in NPA format. If not, it is rejected as bad data. If NPA Mode is set Off, the printer does not perform any NPA processing. If NPA Mode is set to Auto, the printer examines the data to determine the format and then processes it in either format.</div> <div>The NPA Mode setting in the Network Menu applies only to the network interface connection.</div> <div>Note: Changing the NPA Mode setting automatically resets the printer.</div>
*Factory default	

Network Menu (continued)

Menu item	Values
Network Buffer	<p>Auto*</p> <p>3K to maximum size allowed</p> <hr/> <p>You can configure the size of the network input buffer to meet the requirements of your system. If the limited size of the input buffer is preventing you from continuing work in your application each time you send a job to the printer, you may want to increase the buffer size.</p> <p>The maximum size depends on the amount of memory in your printer, the size of the other link buffers, and whether the Resource Save setting is On or Off. To maximize the range for the Network Buffer size, you can disable or reduce the size of the parallel, serial, fax, infrared, LocalTalk, or other network buffer. Choose the Auto setting to let the printer automatically calculate a buffer size proportional to the total amount of available printer memory. In most cases, Auto is the recommended setting.</p> <p>See page 67 for a listing of the default buffer sizes for all the interface ports.</p> <p>Note: Changing the Network Buffer setting automatically resets the printer.</p>
Job Buffering	<p>Off*</p> <p>On</p> <hr/> <p>If you have an optional disk installed in your printer, you can choose to have jobs that are sent to the network port spool to the disk. Spooling jobs to disk may decrease the time required for the printer to accept data from an application, and therefore free the application faster for other work. Since disk memory provides permanent storage, job buffering to disk also prevents the loss of print job data if the printer loses power.</p> <p>The Job Buffering menu item is not displayed if the formatted hard disk is defective, is Read/Write or Write protected, or if Job Buffer Size is set to Disabled in the Setup Menu.</p> <p>See page 68 for more information about job buffering.</p> <p>Note: Changing the Job Buffering setting automatically resets the printer.</p>
Network x Setup	<p>Values for this menu item are supplied by the specific network adapter. Open the menu to see the available values.</p> <p>For more information, refer to the documentation that came with your network adapter.</p>
*Factory default	

Infrared Menu

Use the Infrared Menu to change settings affecting jobs sent to the printer via the infrared interface port. This menu is only available if an optional tri-port adapter is installed in your printer.

If the Infrared Port menu item is set to Disabled, all of the other menu items in the Infrared Menu are hidden.

Infrared Menu

Menu item	Values
Infrared Port	Disabled* IR Option 1 IR Option 2 Select IR Option 1 or IR Option 2 to activate the infrared port on the optional tri-port adapter. If you have a tri-port adapter installed in both connector 1 and connector 2, you can only activate one infrared port. If you select Disabled, all of the other menu items in the Infrared Menu are hidden.
PCL SmartSwitch	Off On* Setting PCL SmartSwitch On lets the printer examine the data on the infrared interface connection and select PCL emulation if the data indicates that is the printer language. If both PCL SmartSwitch and PS SmartSwitch are set Off, the printer uses the language specified in the Printer Language menu as the default. If only one SmartSwitch setting is set Off, the printer uses the language that has its SmartSwitch setting set On as the default.
PS SmartSwitch	Off On* Setting PS SmartSwitch On lets the printer examine the data on the network infrared connection and select PostScript Level 2 emulation if the data indicates that is the printer language. If both PCL SmartSwitch and PS SmartSwitch are set Off, the printer uses the language specified in the Printer Language menu as the default. If only one SmartSwitch setting is set Off, the printer uses the language that has its SmartSwitch setting set On as the default.
*Factory default	

Infrared Menu (continued)

Menu item	Values
NPA Mode	<p>Off Auto*</p> <hr/> <p>NPA is a mode of bidirectional communication that follows the conventions defined in <i>Network Printing Alliance Protocol, A Printer/Host Control Specification Developed by the NPA</i>.</p> <p>NPA mode requires special processing of the print data. If NPA Mode is set On, the data received must be in NPA format. If not, it is rejected as bad data. If NPA Mode is set Off, the printer does not perform any NPA processing. If NPA Mode is set to Auto, the printer examines the data to determine the format and then processes it in either format.</p> <p>The NPA Mode setting in the Infrared Menu applies only to the infrared interface connection.</p> <p>Note: Changing the NPA Mode setting automatically resets the printer.</p>
Infrared Buffer	<p>Disabled Auto* 5K to maximum size allowed</p> <hr/> <p>You can configure the size of the infrared input buffer to meet the requirements of your system. If the limited size of the input buffer is preventing you from continuing work in your application each time you send a job to the printer, you may want to increase the buffer size.</p> <p>The maximum size depends on the amount of memory in your printer, the size of the other link buffers, and whether the Resource Save setting is On or Off. To maximize the range for the Infrared Buffer size, you can disable or reduce the size of the parallel, network, serial, fax, and LocalTalk buffers. Choose the Auto setting to let the printer automatically calculate a buffer size proportional to the total amount of available printer memory. In most cases, Auto is the recommended setting.</p> <p>See page 67 for a listing of the default buffer sizes for all the interface ports.</p> <p>Note: Changing the Infrared Buffer setting automatically resets the printer.</p>
Job Buffering	<p>Off* On</p> <hr/> <p>If you have an optional disk installed in your printer, you can choose to have jobs that are sent to the infrared port spool to the disk. Spooling jobs to disk may decrease the time required for the printer to accept data from an application, and therefore free the application faster for other work. Since disk memory provides permanent storage, job buffering to disk also prevents the loss of print job data if the printer loses power.</p> <p>The Job Buffering menu item is not displayed if the formatted hard disk is defective, is Read/Write or Write protected, or if Job Buffer Size is set to Disabled in the Setup Menu.</p> <p>See page 68 for more information about job buffering.</p> <p>Note: Changing the Job Buffering setting automatically resets the printer.</p>
*Factory default	

Infrared Menu (continued)

Menu item	Values
Window Size	Auto* 1 The Window Size setting specifies the maximum number of infrared frames the printer can receive before it must send an acknowledgment to the host computer. If Auto is selected, the printer automatically sets the window size during power-on to maximize link performance. In most cases, Auto is the recommended setting. If you have trouble printing using the infrared port, changing the Window Size setting to 1 may resolve the problem.
Transmit Delay	Auto* None 1...15 The Transmit Delay setting defines the amount of time the printer must wait before transmitting meaningful infrared data to the host computer, as well as the amount of time the printer requests the host computer to wait before it transmits infrared data. If Auto is selected, the printer automatically sets the Transmit Delay value during power-on to maximize link performance. In most cases, Auto is the recommended setting. If you have trouble printing using the infrared port, selecting a high Transmit Delay setting, such as 15, may resolve the problem.
Max Baud Rate	2400 9600 19200 38400 57600 115200 576000 1152000* 4000000 The maximum baud rate possible for both the printer and the infrared adapter is automatically set during power-on. However, if your printer is situated in a bright or highly reflective environment, you may experience intermittent communication problems. If you do, select a lower baud rate for the infrared connection.
*Factory default	

LocalTalk Menu

Use the LocalTalk Menu to change settings affecting jobs sent to the printer via the LocalTalk port. This menu is only available if an optional tri-port adapter is installed in your printer.

If the LocalTalk Port menu item is set to Disabled, all of the other menu items in the LocalTalk Menu are hidden.

LocalTalk Menu

Menu item	Values
LocalTalk Port	Disabled* LTalk Option 1 LTalk Option 2 Select LTalk Option 1 or LTalk Option 2 to activate the LocalTalk port on the optional tri-port adapter. If you have a tri-port adapter installed in both connector 1 and connector 2, you can only activate one LocalTalk port. If you select Disabled, all of the other menu items in the LocalTalk Menu are hidden.
PCL SmartSwitch	Off On* Setting PCL SmartSwitch On lets the printer examine the data on the LocalTalk interface connection and select PCL emulation if the data indicates that is the printer language. If both PCL SmartSwitch and PS SmartSwitch are set Off, the printer uses the language specified in the Printer Language menu as the default. If only one SmartSwitch setting is set Off, the printer uses the language that has its SmartSwitch setting set On as the default.
PS SmartSwitch	Off On* Setting PS SmartSwitch On lets the printer examine the data on the specified LocalTalk interface connection and select PostScript Level 2 emulation if the data indicates that is the printer language. If both PCL SmartSwitch and PS SmartSwitch are set Off, the printer uses the language specified in the Printer Language menu as the default. If only one SmartSwitch setting is set Off, the printer uses the language that has its SmartSwitch setting set On as the default.
*Factory default	

LocalTalk Menu (continued)

Menu item	Values
NPA Mode	<p>Off Auto*</p> <hr/> <p>NPA is a mode of bidirectional communication that follows the conventions defined in <i>Network Printing Alliance Protocol, A Printer/Host Control Specification Developed by the NPA</i>.</p> <p>NPA mode requires special processing of the print data. If NPA Mode is set On, the data received must be in NPA format. If not, it is rejected as bad data. If NPA Mode is set Off, the printer does not perform any NPA processing. If NPA Mode is set to Auto, the printer examines the data to determine the format and then processes it in either format.</p> <p>The NPA Mode setting in the LocalTalk Menu applies only to the LocalTalk interface connection.</p> <p>Note: Changing the NPA Mode setting automatically resets the printer.</p>
LocalTalk Buffer	<p>Disabled Auto* 6K to maximum size allowed</p> <hr/> <p>You can configure the size of the LocalTalk input buffer to meet the requirements of your system. If the limited size of the input buffer is preventing you from continuing work in your application each time you send a job to the printer, you may want to increase the buffer size.</p> <p>The maximum size depends on the amount of memory in your printer, the size of the other link buffers, and whether the Resource Save setting is On or Off. To maximize the range for the LocalTalk Buffer size, you can disable or reduce the size of the parallel, serial, fax, network, and infrared buffers. Choose the Auto setting to let the printer automatically calculate a buffer size proportional to the total amount of available printer memory. In most cases, Auto is the recommended setting.</p> <p>See page 67 for a listing of the default buffer sizes for all the interface ports.</p> <p>Note: Changing the LocalTalk Buffer setting automatically resets the printer.</p>
Job Buffering	<p>Off* On</p> <hr/> <p>If you have an optional disk installed in your printer, you can choose to have jobs that are sent to the LocalTalk port spool to the disk. Spooling jobs to disk may decrease the time required for the printer to accept data from an application, and therefore free the application faster for other work. Since disk memory provides permanent storage, job buffering to disk also prevents the loss of print job data if the printer loses power.</p> <p>The Job Buffering menu item is not displayed if the formatted hard disk is defective, is Read/Write or Write protected, or if Job Buffer Size is set to Disabled in the Setup Menu.</p> <p>See page 68 for more information about job buffering.</p> <p>Note: Changing the Job Buffering setting automatically resets the printer.</p>
*Factory default	

LocalTalk Menu (continued)

Menu item	Values
NPA Hosts	<div>1...10 (2*)</div> <div>Use this setting to specify the maximum number of NPA hosts that can register for NPA printer alerts. When the number of hosts registered for NPA alerts exceeds the quantity specified by the NPA Hosts menu item, any additional hosts attempting to register for alerts are ignored.</div> <div>Note: Changing the NPA Hosts setting automatically resets the printer.</div>
LocalTalk Name	<div>Lexmark (Default Name)</div> <div>This setting identifies the printer model name stored in printer memory. It cannot be modified from the printer operator panel.</div>
LocalTalk Addr	<div>0.0.0 (LocalTalk Node Number)</div> <div>The LocalTalk Address identifies the LocalTalk Node number assigned to the printer. It cannot be modified from the printer operator panel.</div>
LocalTalk Zone	<div>*</div> <div>(Zone name provided by LocalTalk network)</div> <div>This setting identifies the LocalTalk Zone. The setting * indicates that no particular zone is specified, and therefore all zones are valid. This setting cannot be modified from the printer operator panel.</div>
*Factory default	

Fax Menu

Use the Fax Menu to configure a serial port to receive faxes from a class 1 fax modem connected to the port. This menu is only available if an optional tri-port adapter is installed in your printer.

If the Fax Port menu item is set to Disabled, all of the other menu items in the Fax Menu are hidden.

Fax Menu

Menu item	Values
Fax Port	Disabled* Ser Option 1 Ser Option 2 Select Ser Option 1 or Ser Option 2 to activate the fax function for the specified serial port. If you have a tri-port adapter installed in both connector 1 and connector 2, you can only activate one fax port. If you select Disabled, all of the other menu items in the Fax Menu are hidden.
Fax Baud	1200 2400 4800 9600 19200* 38400 57600 115200 Select the baud appropriate for the fax modem you attached to the serial port.
Fax Data Bits	7 8* Select the number of data bits that the fax modem sends in each transmission frame.
*Factory default	

Fax Menu (continued)

Menu item	Values
Fax Parity	Even Odd None* Ignore <hr/> This setting lets you select the parity for the input and output data frames. Refer to the <i>Technical Reference</i> for more information about parity.
Fax Buffer	Disabled Auto* 3K to maximum size allowed <hr/> You can configure the size of the fax input buffer to meet the requirements of your system. If the limited size of the input buffer is preventing you from continuing work in your application each time you receive a fax, you may want to increase the buffer size. The maximum size depends on the amount of memory in your printer, the size of the other link buffers, and whether the Resource Save setting is On or Off. To maximize the range for the Fax Buffer size, you can disable or reduce the size of the parallel, serial, network, infrared, or LocalTalk buffer. Choose the Auto setting to let the printer automatically calculate a buffer size proportional to the total amount of available printer memory. In most cases, Auto is the recommended setting. See page 67 for a listing of the default buffer sizes for all the interface ports. Note: Changing the Fax Buffer setting automatically resets the printer.
*Factory default	

3

Using color

Your printer provides you with outstanding color printing technology for many business office uses, such as business charts, photographic images, or spot colors.

Color can give life to your printed material, adding excitement, realism, importance, clarity, or whatever feeling you want to convey. You can enhance your use of color by understanding how color printing works and how to use it most effectively.

This chapter provides information about selecting, using, and adjusting color for desktop printing.

Communicating in color

Today's fast-paced, competitive business and professional climate demands an accurate, concise way to communicate and exchange information. One of the most effective visual communication tools is color. By using color to convey information, you reduce the amount of verbal explanation needed to get your message across. Applications for communicating in color are endless. They include:

- Business internal and external documents
- Charts and graphs
- Promotional literature
- Presentation graphics
- Overhead transparencies
- Product manuals
- Sales brochures
- Scientific image printing
- Architectural drawings

Guidelines

Follow these guidelines when using color:

- Less is better when using color. Overusing color can minimize its impact.
- Be consistent with your color use to make your message meaningful and easy to understand. For example, use the same color in a document to highlight similar concepts.
- Use the brightest color to draw attention to the most important point.
- When adding color to a business document, use the color for meaning and clarification, not decoration.
- Avoid colors that may offend or confuse your audience.
- In a pie chart, fill each slice with a solid color. Draw attention to the most important slice with the brightest color.
- When using color on transparencies, use vivid, saturated colors. Use high contrast colors to attract attention to major points.
- Select colors that look good together and reinforce your message.
- Avoid red and green combinations. These colors are hard for people with red/green color blindness to distinguish.

For more information about color, refer to the numerous books available in the marketplace and to the documentation that is included with your software application.

Defining color

Because perception of color is subjective, no two people see color in exactly the same way. In the desktop printing environment, how we perceive color also depends on whether we are looking at color on a computer screen or printed on paper.

Knowing how color is produced gives you a clearer understanding of color and how it works with your color printer. For example, light coming from a computer screen

is *additive color*, and light reflected from ink or toner on a page is *subtractive color*.

Additive colors

The colors displayed on computer screens are combinations of red, green, and blue (RGB). Additive color is produced when selected hues in the color spectrum of white light are combined (or added) to change how colors are emphasized. Combinations of red, green, and blue are additive colors.

- Because red, green, and blue are the foundation for building all other additive colors, they are called primary additive colors.
- White is a combination of each of the primary colors. You can see an example of this in a beam of pure white light striking a prism, separating into a rainbow of color.

Subtractive colors

Printers use the colors cyan, magenta, and yellow (CMY). Subtractive color is produced when white light strikes a pigment that absorbs (or subtracts) most of the hues and reflects only one (or a few) back to the eye. In addition to human-made subtractive pigments (such as ink or toner on paper, or dye in fabric), most natural pigments are subtractive.

- Combinations of cyan, magenta, and yellow are subtractive colors.
- Because cyan, magenta, and yellow are the foundation for building all other subtractive colors, they are called primary subtractive colors.
- Black is produced by overlaying a mixture of each of the subtractive primary colors. Black produced this way is not a pure black; it is called process black, or composite black. (Your printer can print with pure black by using the black toner.)

Color tools

Since no two people see color in exactly the same way, you need to match your colors to standard colors. There are several tools to help balance your own perception of color with measurable color standards.

In your printer

You can print color samples from your printer by selecting Color Samples from the Tests Menu. The sample prints using the printer's Print Quality and Color Correction settings. (See "Adjusting color" on page 61 for more information.) The RGB and CMY percentages also print on the chart for easy reference. Use this multipage color sample to select colors when using applications that let you set RGB or CMY palette colors.

In your software

Most software applications have a color chart in the software that lets you select and adjust colors from within the software. However, since your computer screen uses an additive RGB color process and printers use a subtractive CMY process, what you see on the screen is often not what you see when you print. Color management systems seek to minimize this problem. Still, even with color correction, there are many colors you can see on your screen, particularly bright blues and greens, which cannot be reproduced on any four-color printer.

Most software applications let you make some color selections and adjustments from within the software. Be aware that changes made in an application override changes made from the printer operator panel. The "Color Correction" table on page 61 may help you determine the best method to reproduce the colors in your software applications.

If you are using color correction from your software or operating system, make sure the printer's Color Correction menu item is set to CMYK.

Adjusting color

You can make color adjustments from your Lexmark printer driver, from the MarkVision printer utility, and from the printer operator panel. Lexmark posts updates about color support on its web site (www.lexmark.com). See page 141 for more information about online services.

From the operator panel, select Color Menu. The following menu items are available to customize your color printing:

- Color Correction
- Print Quality
- Toner Saver

The values for each menu item are defined in the following tables. Each table indicates:

- **What** you can adjust
- **Why** you would make the adjustment
- **When** you would want to make the adjustment

The settings you choose may depend on the types of jobs you print. For example, jobs full of *images*—visual data typically scanned from original sources external to the PC, such as photographs or video frames—may require settings different from those you would choose for business *graphics*, such as charts and graphs electronically generated from a software application.

Color Correction

What	Why	When
Vivid (default)	To print brighter colors. Vivid adjusts CMYK components, resulting in more saturated colors.	<ul style="list-style-type: none">• You need sharp overhead transparencies, especially when creating transparencies that contain graphics.• Printed colors appear faded or washed out.
	To adjust the cyan to magenta range of colors to be more blue.	Your printed blues are too purple.
RGB	To print with no color correction from RGB applications.	You are using an application that does its own color correction in RGB color.
CMYK	To print with no color correction from CMYK applications.	You are using a software application that does its own color correction.

Color Correction (continued)

What	Why	When
Black & White	To print color images in a monochrome gray scale.	<ul style="list-style-type: none">• You want to print a draft of a color document in shades of black and white.• You're printing a color document for photocopying.• You want to preserve your color toner and thereby reduce printing expenses.
Display	To print colors that approximate the colors on a standard computer screen.	<ul style="list-style-type: none">• You want your printed colors to look similar to your computer screen.• Your application does not do its own color correction and defines colors as RGB (red, green, blue), HLS (hue, lightness, saturation), or HSB (hue, saturation, brightness).

Print Quality

What	Why	When
Graphics	Optimal for most business printing, providing the fastest speed, lowest memory usage, and optimal print quality for documents containing text and graphics.	<ul style="list-style-type: none">• You want high quality output for text and business graphics.• You want to print complex jobs fast.• You need to collate large jobs.
Images	To print enhanced images without significantly affecting the memory requirements or print speed for a particular job.	<p>You're printing documents that contain image data and:</p> <ul style="list-style-type: none">– You need the best combination of speed, memory usage, and image quality.– You don't have sufficient memory installed to print the job using the 1200 Image Quality setting.– You want the printer to choose which images are enhanced.
1200 Image Quality	Optimizes the print quality of images on the page. This setting provides outstanding text and graphics quality, while enhancing fine detail in all image data.	<p>You're printing documents that contain image data and:</p> <ul style="list-style-type: none">– You want the best print quality possible for a job that incorporates image data.– You want sharp edges on small graphic objects.– Quality output is more important than printing speed.– You have sufficient memory installed in your printer to print your jobs with 1200 Image Quality selected.

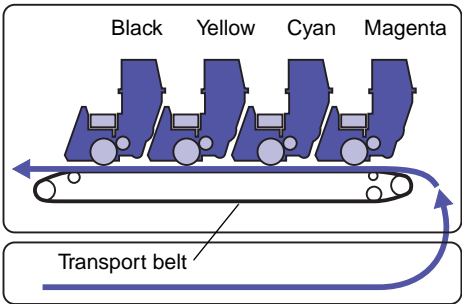
Toner Saver

What	Why	When
Off	Enhances the quality of printed text by smoothing the edges of individual characters.	<ul style="list-style-type: none">You need the best possible quality for text and business graphics.You value quality over economy.
On	Reduces toner consumption without markedly affecting the quality of the printed output.	<ul style="list-style-type: none">You want to conserve your supply of toner and reduce printing costs.You're printing drafts or review copies that don't require fully saturated colors.Your jobs consist largely of text and graphics, which are affected the least by setting Toner Saver On.

Printing color and mono jobs

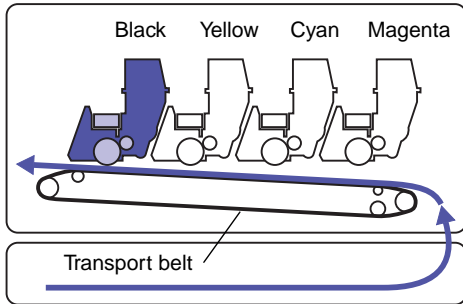
You can choose whether your printer handles all pages as if they contain color, or adjusts mechanically when it recognizes a *mono* page—one which requires black toner only. The adjustment for mono jobs significantly slows overall printing time, but also extends the life of printer supplies. If you're interested in conserving printer supplies and reducing the overall cost of printing, you may want to change the Printer Usage setting in the Setup Menu to Maximum Yield.

Maximum Speed (paper path for color and mono pages)



When shipped from the factory, your printer is designed to deliver the fastest possible printing of all jobs: color and mono. When the Printer Usage menu item is set to the default, *Maximum Speed*, the printer does not make any mechanical adjustments when it detects mono pages. Although it lays only black toner on the page, it does not remove the color print units from the paper path. This results in fast throughput, but at the cost of some wear on the color photoconductors and the developer rolls within the color toner cartridges.

Maximum Yield
(paper path for mono pages)



If you set Printer Usage to *Maximum Yield*, the printer drops the transport belt when it detects a mono page and thereby removes the color print units from the paper path. This extends the life of the color photoconductors and color toner cartridges. However, when the printer detects a color page, it must then lift the transport belt back into the color position, and calibrate the four photoconductors and the toner cartridge drive gears to ensure consistent color registration. This adds time to your printing.

If you choose Maximum Yield, the Timing Adjustment menu item (also in the Setup Menu) lets you specify which calibrations you want the printer to perform when it adjusts from a mono job to a color job. The printer also performs these same calibrations each time you turn the printer on and each time you open and close the top cover.

The Timing Adjustment setting you choose may affect the overall printing time, as well as print quality. See page 33 for more information.

For more suggestions on ways to conserve printer supplies, see page 96.

4

Managing memory

Printer memory

The Optra Color 1200 printer ships with at least 32MB of standard memory. To determine the amount of memory currently installed in your printer, select Print Menus from the Tests Menu. The total installed memory appears on the printout. For more information about printing the menu settings page, see page 8.

EDO memory

Your printer requires Extended Data Out (EDO) memory. EDO memory is a memory chip technology that improves memory performance 10 to 15% over other types of memory. Your printer has been designed to use EDO memory and take advantage of the performance increase it offers.

Note: Memory options designed for other Lexmark laser printers do not work with your printer.

The memory cards shipped in your printer, as well as the Lexmark printer memory options available for your printer model, use the EDO memory technology. Unpredictable results may occur if you attempt to operate your printer with memory other than EDO memory installed.

When purchasing memory for your printer, make sure the EDO memory card meets the following criteria:

- 50ns
- 72 pin
- No parity

Adding memory

You may choose to install optional memory to increase the printer memory to a maximum of 128MB. You must install memory cards in pairs, each with the same amount of memory. For example, to install 32MB of memory you must install two 16MB cards. You can install up to 128MB of memory by installing four 32MB memory cards in your printer.

Note: Memory options designed for other Lexmark laser printers do not work with your printer.

Lexmark offers two memory options for the Optra Color 1200 printer: a 32MB option (two 16MB memory cards) and a 64MB option (two 32MB memory cards). For installation instructions, refer to the *Setup Guide*.

Additional memory allows the printer to print complex jobs on large paper, collate large jobs, and operate more efficiently. You can also download fonts and macros to printer memory. However, you should consider this type of memory temporary storage: anything stored in printer memory is lost when the printer power is turned off.

Solving memory problems

If your printer encounters a memory shortage when trying to print a job, it may post a **37 Insufficient Collation Area**, **38 Memory Full**, or **39 Complex Page** error message, depending on the task it's trying to complete. Refer to "Understanding printer messages" on page 100 for more information about these and other messages.

If these messages appear frequently, you probably want to install additional printer memory. If they only occur rarely, try reducing the:

- Size of the formatted page
- Number of pages in the job
- Number of fonts or graphics on each page
- Size of scalable fonts used in the document
- Number of fonts or macros downloaded to printer memory

You may also want to set the Print Quality menu item to Graphics or Images, since the 1200 Image Quality setting requires more memory. If Complex Page errors persist, try setting Page Protect On from the Setup Menu. If you experience frequent Memory Full errors, you may want to set Resource Save Off.

Allocating memory

A portion of printer memory is reserved for input buffers that hold print jobs sent from your software application. Your printer has an input buffer for each interface (parallel, serial, network, LocalTalk, or infrared). You can change the amount of memory allocated to each buffer, depending on your system requirements. For more information about using printer menus to allocate memory for each interface, see the description of the various interface menus in Chapter 2.

The size of the input buffers varies with the amount of memory installed in the printer. The following table lists the default size of the input buffers for each interface. If your printer is not using a particular interface, the allocated memory is reserved for job processing.

For more detailed information about these input buffers and memory allocation, refer to the *Technical Reference*.

Default input buffer size

Installed memory	Each parallel port	Each serial port	Each network port	LocalTalk port	Infrared port
32MB	192K ¹	150K	1MB	1MB	150K
64MB	2MB	300K	2MB	2MB	300K
96MB					
128MB					

¹ 1MB allocated to standard parallel port if no optional adapter is installed.

Flash memory

Your printer comes with 4MB of standard flash memory. If you frequently download fonts, macros, forms, or symbol sets to your printer, you may want to use flash memory storage, rather than RAM. Resources stored in flash memory are not lost when the printer power is turned off or the printer is reset.

Hard disk

If you have a large number of permanent resources you'd like to download to your printer, you may want to install a hard disk option. The hard disk works much like flash memory, but has a larger storage capacity for downloaded resources. You can also use the hard disk for job buffering, collating large jobs, and gathering job statistics.

For instructions on installing a hard disk, refer to the printer *Setup Guide*.

Job buffering

You can partition a portion of the hard disk for job buffering. In some cases, spooling jobs to a disk may decrease the time required for the printer to accept the print job data from the application. The job also remains stored in the disk until the entire job prints. Since disk memory acts as permanent storage, that means your jobs remain secure in the event of a power failure.

You can enable or disable job buffering for each of the available printer ports (parallel, serial, fax, network, LocalTalk, and infrared) from the printer operator panel menus or from MarkVision. Use the Job Buffer Size menu item in the Setup Menu to set the percentage of the disk you want to use for job buffering.

Collating jobs

If you are collating a large job and the printer memory is not sufficient, the printer automatically uses storage area available on an installed hard disk to finish collating the job. See page 22 for more information about collation.

Storing job statistics

You can also use an installed hard disk to gather statistics about a specified number of the most recent print jobs. The statistics include whether the job printed with or without errors, the time required to print the job, the size (in bytes) of the job, the requested paper size and paper type, the color settings used, the total number of printed pages, and the number of copies requested.

See page 34 for more information about setting up your printer to gather job statistics and printing the accumulated data. Or, if you're using the MarkVision utility, refer to the MarkVision online Help or the MarkVision documentation on the printer CD.

Managing resources downloaded to flash or disk

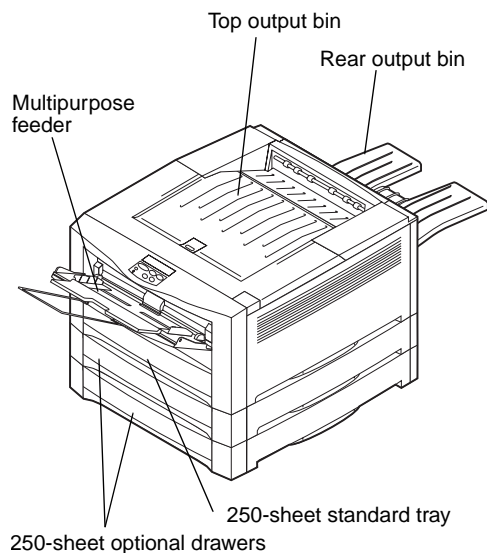
Use the Mark Vision utility to manage the resources you store on flash memory or hard disk. MarkVision offers tools for setting the download target, formatting the storage devices, downloading resources, deleting files, moving files from one storage device to the other on the same printer or from one printer to another, printing a directory listing the resources stored on a device, and setting both read/write and write passwords to protect all the resources stored on flash memory or disk or to protect individual files.

For more information about the specific resource management tools that MarkVision offers, see "Introducing MarkVision" on page 131 or refer to the MarkVision online Help. For more information about setting passwords, refer to the printer *Technical Reference*.

5

Paper handling

Paper sources and output bins



Your printer comes equipped with two standard paper sources: a 250-sheet paper tray and the 100-sheet multipurpose feeder. (Some models may ship with a second 250-sheet tray.) You can load paper and transparencies in the standard tray. Load paper, transparencies, labels, card stock, or envelopes in the multipurpose feeder.

For additional paper capacity, you can attach up to two 250-sheet optional drawers to your printer. When linked, you can then effectively create a single 850-sheet source. See page 82 for more information about tray linking. Refer to the *Setup Guide* for information about installing optional drawers.

The table on page 72 details the types and quantities of media you can load in each of the printer's paper sources. For more information about selecting specific media, see "Media guidelines" on page 74.

Your printer also has two output bins: the top output bin that collates up to 250 sheets of paper (face down), and the rear output bin that stacks up to 100 sheets of paper, 50 transparencies, or 30 labels face up. The rear output bin lets you feed transparencies, labels, card stock, and envelopes straight out the back of the printer, reducing curling and potential paper jams. Select the bin you want to use from the Output Bin menu.

The top output bin has a sensor that detects when the bin is full. When the printer displays the message **Remove Paper / Top Output**, you must empty the bin before you can continue printing.

Paper source specifications

Source	Media	Sizes	Weight	Capacity ¹	Print side
Standard tray (Tray 1)	Paper Transparencies	A4, A5, JIS B5, JIS B4, A3, letter, legal, 11x17 ²	60–90 g/m ² (16–24 lb)	250 sheets 50 transparencies	Face down
Optional drawers (Tray 2 or 3)	Paper only	A4, A5, JIS B5, JIS B4, A3, letter, legal, 11x17 ²	60–90 g/m ² (16–24 lb)	250 sheets	Face down
Multipurpose feeder	Paper Transparencies Labels Envelopes Card stock	Supports all standard sizes listed in the "Paper size speci- fications" and "Envelope size specifications" tables on page 73. Supports any odd-size paper within the following dimensions: Minimum: 90 x 148 mm (3.5 x 5.8 in.) Maximum: 297 x 432 mm (11.7 x 17 in.) Select Universal from the MP Feeder Size menu when feeding odd-size paper.	60–135 g/m ² (16–36 lb) Card stock: 163 g/m ² (90 lb)	100 sheets 30 transparencies 30 label sheets 15 envelopes	Face up

¹ For 20 lb paper, unless otherwise noted.

² Use the Size Detection menu item in the Paper Menu to configure your trays to support either B4 and A3 size paper or legal and 11x17 size paper. See page 21 for more information.

Paper sizes

Your printer supports a wide variety of paper sizes. Some paper sizes feed from the trays short edge first, and others feed long edge first. This affects the print speed, as well as the proper positioning of letterhead or other preprinted paper in the trays. See the "Paper size specifications" table on page 73 for details. Refer to the *Setup Guide* for illustrations of proper paper orientation in the trays.

The printer determines the size paper loaded in the trays by the position of the rear paper guide. Since the printer can only recognize A3 and B4 size paper or 11x17 and legal size paper, you must decide which paper sizes you want your trays to support. Then choose the appropriate setting from the Size Detection menu item. You can still load the paper sizes you don't select in the multipurpose feeder.

The following tables list the paper and envelope sizes your printer supports.

Paper size specifications

Size	Dimensions	Feed orientation	Print speed (ppm)
A5	148 x 210 mm	Long edge	16
JIS B5	182 x 257 mm	Long edge	13.5
A4	210 x 297 mm	Long edge	12
JIS B4	257 x 364 mm	Short edge	7.5
A3	297 x 420 mm	Short edge	6.5
Letter	8.5 x 11 in.	Long edge	12
Legal	8.5 x 14 in.	Short edge	7.5
11 x 17	11 x 17 in.	Short edge	6.5
Universal ¹	297 x 432 mm (11.7 x 17 in.)	Short edge	6.5

¹ Select this value when you're feeding a non-standard size sheet from the multipurpose feeder. The printer formats the page for 11.7 x 17 in. (297 x 432 mm). Set the margins for the actual page size from your software application.

Envelope size specifications

Size	Dimensions	Feed orientation	Print speed (ppm)
DL Envelope	220 x 110 mm	Short edge	7.5
C5 Envelope	229 x 162 mm	Short edge	7.5
B5 Envelope	250 x 176 mm	Short edge	7.5
7 3/4 Envelope	7.5 x 3.875 in.	Short edge	12
9 Envelope	8.875 x 3.875 in.	Short edge	7.5
10 Envelope	9.5 x 4.125 in.	Short edge	7.5
Other Envelope ¹	8.5 x 14 in.	Short edge	7.5

¹ Select this value when you're using a non-standard size envelope. The printer formats the envelope for the maximum size (8.5 x 14 in.). Set the margins for the actual envelope size from your software application.

Media guidelines

Select appropriate media (paper, transparencies, labels, card stock, and envelopes) for your printer to avoid printing problems. For detailed information about media characteristics, refer to the *Card Stock & Label Guide* available on the CD that was shipped with your printer. Brief guidelines for choosing paper and other media follow.

Paper

For the best output when printing photographic quality images, use a high quality laser printer paper. We recommend the following papers for optimum results:

- Hammermill Laser Print 90 g/m² (24 lb)
- Xerox Image Series LX Paper

When printing text and typical business graphics, you may find 75 g/m² (20 lb) paper designed for use with laser printers or photocopiers produces acceptable print quality. Always try a sample of any paper you are considering using with the printer before buying large quantities.

Before loading paper, note the recommended print side identified on the paper package. Load paper with the recommended print side *face down* in the paper trays and *face up* in the multipurpose feeder. Refer to the *Setup Guide* for complete paper loading instructions.

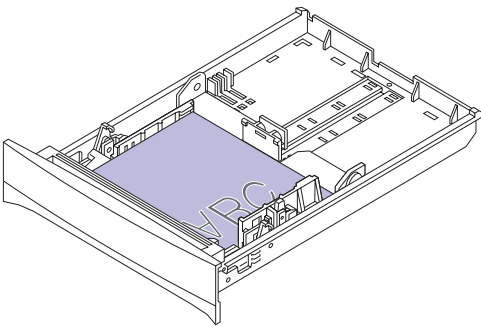
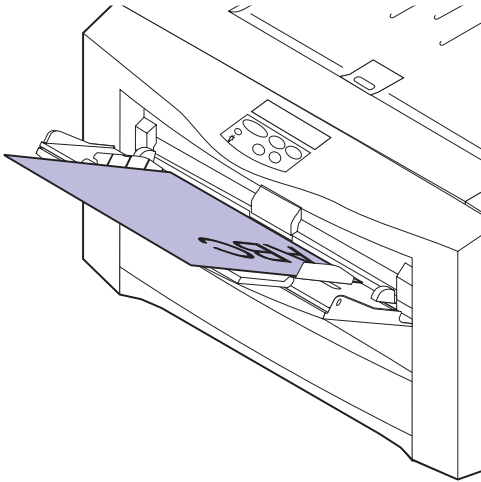
The following papers are not recommended for use with your printer:

- Paper with a rough or heavily textured surface
- Coated papers, such as erasable bond
- Preprinted papers manufactured with chemicals that may contaminate the printer
- Multiple-part forms
- Synthetic papers
- Thermal papers
- Recycled paper having a weight less than 20 lb (75 g/m²)

Letterhead

Refer to the illustrations at left to orient A4 or letter size preprinted paper in the multipurpose feeder or the paper trays.

Preprinted papers such as letterhead must be able to withstand temperatures up to 195°C (383°F) without melting or releasing hazardous emissions. Use inks that are not affected by the resin in toner or the silicone in the fuser. Inks that are oxidation-set or oil-based should meet these requirements. Latex inks might not.

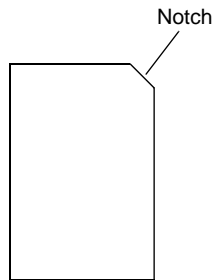


Transparencies

For best results, use only the following Lexmark transparencies with the Optra Color 1200 printer:

Recommended transparencies

Part number	Size
12A0541	A4
12A0540	Letter



These transparencies are designed to provide optimal print quality when used with your printer. Using other transparencies designed for laser printers may yield unpredictable results.

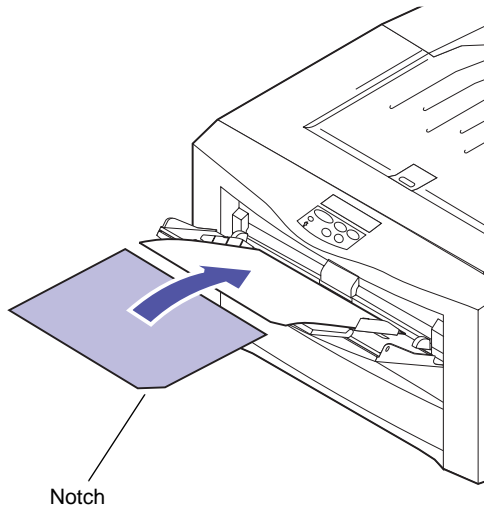
To order transparencies in the U.S., call 1-800-438-2468. In other countries, refer to the table on page 90 for a listing of appropriate phone numbers.

Changing the Paper Type

Always set the Paper Type to Transparency when printing transparencies. The printer then adjusts the fuser temperature and engine speed to ensure the best possible print quality. When you print transparencies, you will experience a slight delay before printing starts as the printer warms the fuser to the higher temperature. Transparencies then print at approximately 3 ppm.

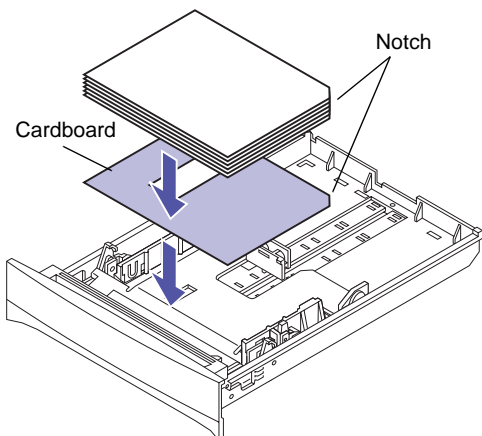
When you load transparencies in the multipurpose feeder, the printer recognizes the type of media you have loaded and automatically makes these adjustments. However, waiting for the printer to sense the presence of transparencies may further delay the job. We recommend always selecting the correct Paper Type before sending a job to print.

Multipurpose feeder



Note: To create a straight paper path and minimize curling, load transparencies in the multipurpose feeder and stack them in the rear output bin.

Tray 1



Loading transparencies

Before loading transparencies, fan the stack to prevent sheets from sticking together. To prevent print quality problems, avoid getting fingerprints on the transparencies.

Load transparencies only in the multipurpose feeder or tray 1. Your printer does not feed transparencies from tray 2 or tray 3.

Load transparencies with the corner notch oriented as shown. This properly positions the specially coated print side. For more information, refer to the detailed loading instructions packaged with the transparencies.

When loading transparencies in tray 1, use the piece of cardboard with the rectangular cutout that comes with the transparencies. Place the cardboard in the bottom of the tray before loading transparencies. The cardboard ensures proper feeding of the last transparency in the stack.

Only use the cardboard when loading transparencies in tray 1. Do not use the cardboard in the multipurpose feeder.

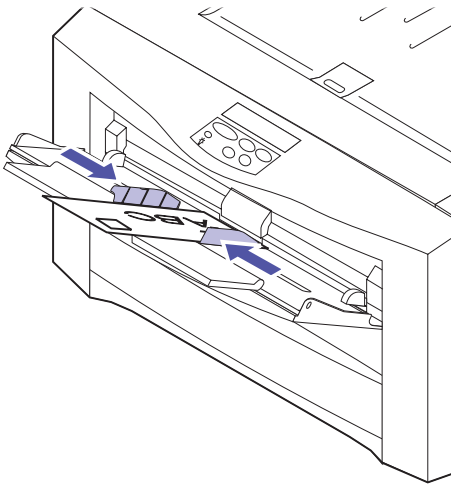
Envelopes

You can load up to 15 envelopes in the multipurpose feeder. Load envelopes with the flap side down and the short edge nearest the return address area positioned to enter the printer first, as shown. Do not load stamped envelopes. Refer to the *Setup Guide* for additional loading instructions.

To ensure the best print quality, make sure you set the Paper Type to Envelope and select the correct envelope size before sending the job to print.

When printing on envelopes:

- Try a sample of any envelopes you are considering using with the printer before buying large quantities.
- Use envelopes made from 90 to 105 g/m² (24 to 28 lb) bond paper. For best performance and fewer paper jams, do *not* use envelopes that:
 - Have excessive curl
 - Are stuck together
 - Are damaged in any way
 - Contain windows, holes, perforations, cutouts, or embossing
 - Use metal clasps or string ties
 - Have postage stamps attached
 - Have any exposed adhesive when the flap is in the sealed or closed position
- Use envelopes that can withstand temperatures of 195°C (383°F) without sealing, excessive curling, wrinkling, or releasing hazardous emissions.
- Adjust the left and right paper guides to fit the width of the envelopes.
- To minimize curl, use the rear output bin so the envelopes feed straight out the back of the printer.



Labels

If you occasionally need to print labels, use paper labels designed for laser printers. Use only label sheets that have no gaps between the labels, as shown at left. Try a sample of any labels you are considering using with the printer before purchasing a large quantity.

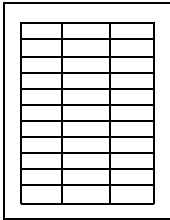
Labels must be able to withstand temperatures of 195°C (383°F) and pressure of 25 psi. For detailed information on label printing, characteristics, and design, refer to the *Card Stock & Label Guide* on the printer CD.

Only feed labels from the multipurpose feeder. Do not load labels in the trays. Refer to the *Setup Guide* for loading instructions.

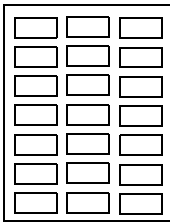
When printing on labels:

- Use only paper labels. Do not use vinyl labels.
- Do not print a large number of labels continuously.
- Do not use labels that have adhesive exposed on the sheets.
- Do not use labels that have coating or sizing applied to make the labels liquid-resistant.
- To minimize curl, use the rear output bin so the labels feed straight out the back of the printer.
- From the operator panel or from MarkVision, set the Paper Type to Labels.

Acceptable labels



Unacceptable labels



Card stock

You can load a small quantity of heavier paper in the multipurpose feeder. To minimize curl, use the rear output bin so the paper feeds straight out the back of the printer.

The properties of the card stock you choose—such as the orientation of the paper fibers, moisture content, thickness, and texture—can affect print quality. For more information on the types of card stock your printer supports, refer to the *Card Stock & Label Guide* on the printer CD.

Always set the Paper Type to Card Stock when printing on heavier paper. The printer then adjusts the fuser temperature and engine speed to ensure the best print quality.

Storing media

Properly storing media helps ensure trouble-free printing. Follow the guidelines below:

- For best results, store media in an environment where the temperature is approximately 21°C (70°F) and the relative humidity is 40%.
- Store cartons of paper on a pallet or shelf, rather than directly on the floor.
- If you store individual packages of paper out of the original carton, make sure they rest on a flat surface so the edges do not buckle or curl.
- Do not place anything on top of the paper packages.

Avoiding paper jams

If you follow the tips outlined in “Media guidelines” on page 74, you’re well on your way to trouble-free printing. If you do experience a paper jam, see page 118 for instructions on clearing the jam.

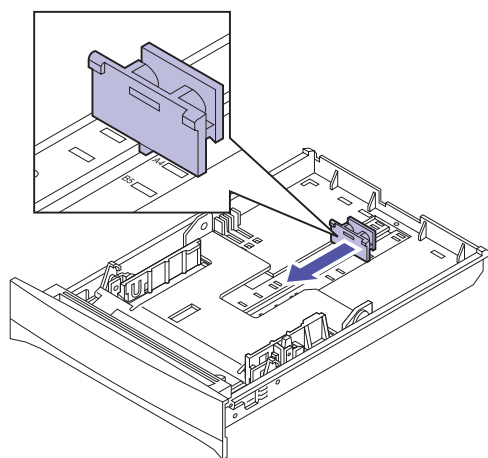
Here are a few reminders of ways to avoid paper jams:

- Make sure the paper guides in the trays are properly positioned for the size paper you have loaded.
- Load only standard-size paper in the trays.
- If you need to load paper in a tray while a job is printing, press the **Stop** button and wait for the printer motors to idle before you remove the tray from the printer. After you reinstall the loaded tray, press **Go** to continue printing.
- Use only recommended media. See page 74 for more information.
- Do not load wrinkled, creased, or damp paper.
- Flex and straighten the paper before you load it.
- Do not overload the paper trays. Make sure the paper stack does not exceed the maximum height indicated by the paper guides.
- The multipurpose feeder does not have size sensing. Select the correct source and paper size from

the operator panel, MarkVision, or the printer driver before sending the job to print.

- If you are printing a job using manual feed, send the job to the printer and then wait for the **Load Manual** message to appear on the display before you place media in the multipurpose feeder.
- Print transparencies only after warming the printer by printing a job on paper (such as the menu settings page you can print from the Tests Menu).

Loading paper in the trays



The procedure for loading paper in all the trays (the standard 250-sheet tray and the optional 250-sheet trays) is the same. Refer to the *Setup Guide* for detailed instructions.

The printer lets you know when you need to load paper in the trays. If a tray has less than 50 sheets of paper, the **Supplies** status message appears on the display. Press **Menu>** or **<Menu** to open the Supplies Menu, and then scroll through the list of supplies that need attention. The menu indicates whether a tray is missing, low on paper, or empty.

When you change the paper in the tray, make sure the paper guides are in the correct positions. The position of the rear paper guide informs the printer of the size paper loaded in the tray. Feeding paper when the rear paper guide is not in the correct position may result in misfeeds or paper jams.

If you load a different type of media, change the Paper Type setting in the Paper Menu. Selecting the correct paper type guarantees optimal print quality for that media. See “Media guidelines” on page 74 for information about the changes the printer makes for specific media. For more information about changing the Paper Type setting, see page 18 or refer to the *Setup Guide*.

The paper size and the paper type also must be set correctly for tray linking to work as expected. See page 82 for more information about tray linking.

Tray linking

If you want to increase your printer's paper capacity, you can add up to two optional 250-sheet drawers to your printer. If you load the same paper size and type in more than one tray, the printer automatically links the trays: when one tray is empty, paper feeds from the other tray. By linking the trays, you can effectively create a single paper source that holds up to 850 sheets (depending on the options you have installed).

To initiate tray linking:

- 1 Load paper of the same size and type in all the trays you want to link.**
- 2 Make sure the rear paper guide is set to the proper position for the paper size you've loaded.**

The position of the rear paper guide informs the printer of the paper size loaded in the tray.

If you want to link the multipurpose feeder to a tray, select the appropriate MP Feeder Size setting from the Paper Size menu.

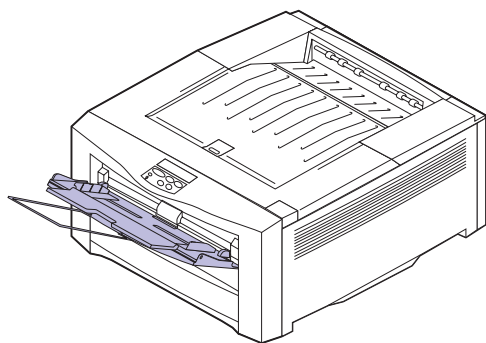
- 3 Select the same Paper Type setting for all the sources.**

See page 18 or refer to the *Setup Guide* for more information about changing the Paper Type setting.

With tray linking in effect, the printer feeds paper from one tray until it is empty, and then feeds paper from the next tray.

To disable tray linking, change the Paper Type setting for one or more of the trays to a Custom Type setting. See page 18 for more information.

Using the multipurpose feeder



The multipurpose feeder holds 100 sheets of paper, 30 transparencies, 30 sheets of labels, or 15 envelopes. Refer to the *Setup Guide* for instructions for loading media in the multipurpose feeder.

If you want to use the multipurpose feeder like you use the other trays, make sure the Configure MP menu item in the Paper Menu is set to Cassette.

You can also use the multipurpose feeder to manually feed a single sheet or envelope. See page 85 for more information about manual feed.

Printing from the multipurpose feeder

Since the multipurpose feeder does not have auto size sensing, you must select the correct paper size and type from the printer operator panel or from MarkVision before you send a job to print.

1 Select MP Feeder as the paper source.

From the printer operator panel or from MarkVision:

a Press Menu> or <Menu to enter the menus.

Paper Menu appears on the second line of the display.

b Press Select to open the Paper Menu.

The **Paper Source** menu item appears on the second line of the display.

c Press Select to select Paper Source.

d Press and release Menu> until MP Feeder appears on the second line of the display.

e Press Select to set the multipurpose feeder as the paper source.

f Press **Go** to return the printer to the ready state.

2 Select the paper size.

Since the multipurpose feeder does not automatically sense the size of the media you loaded, you must select the correct paper size.

If you set the size from your software application or driver, press **Go** when the message **Load MP Tray** appears on the display. Follow the instructions below to set the size from the operator panel or from MarkVision:

a Press **Menu>** or **<Menu** to enter the menus.

Paper Menu appears on the second line of the display.

b Press **Select** to open the Paper menu.

c Press **Menu>** until **PAPER SIZE** appears on the second line of the display.

d Press **Select** to select Paper Size.

e Press and release **Menu>** until **MP Feeder Size** appears on the second line of the display.

f Press **Select** to open a list of paper and envelope sizes.

g Press **Menu>** or **<Menu** to scroll through the list of sizes.

h When the size you need appears on the second line of the display, press **Select**.

i Press **Go** to return the printer to the ready state.

3 Make sure the Paper Type setting is appropriate for the media you're loading in the feeder.

See page 18 or refer to the *Setup Guide* for more information about the Paper Type setting.

4 When the printer is in the ready state, send the job to print.

Feeding media manually

You can also use the multipurpose feeder to feed single sheets of paper, transparencies, card stock, labels, or individual envelopes.

To print a page manually:

- 1** Select **Manual Paper** or **Manual Envelope** as the paper source from the operator panel or from MarkVision:

- a** Press **Menu>** or **<Menu** to enter the menus.

Paper Menu appears on the second line of the display.

- b** Press **Select** to open the **Paper Menu**.

The **Paper Source** menu item appears on the second line of the display.

- c** Press **Select** to select **Paper Source**.

- d** Press and release **Menu>** until **Manual Paper** or **Manual Env** appears on the second line of the display.

- e** Press **Select** to set the paper source.

- f** Press **Go** to return the printer to the ready state.

- 2** Select the paper size.

Since the multipurpose feeder does not automatically sense the size of the media you load, you must select the correct paper size for each job.

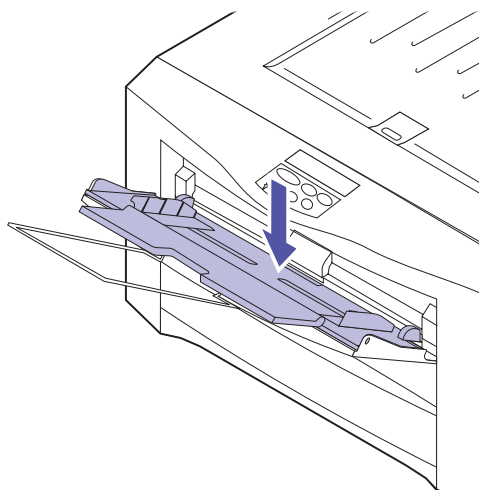
You can set the paper size from your software application or driver, or follow the instructions below to set the paper size from the operator panel or from MarkVision:

- a** Press **Menu>** or **<Menu** to enter the menus.

Paper Menu appears on the second line of the display.

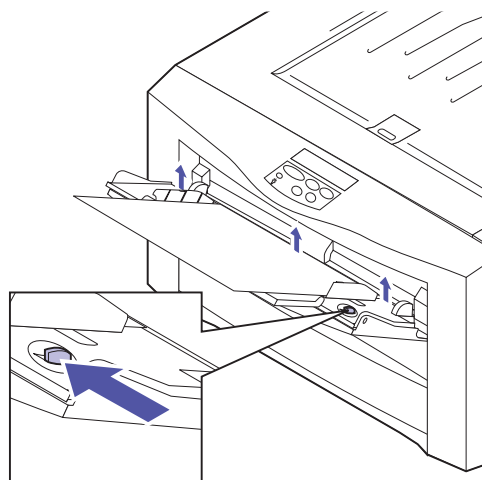
- b** Press **Select** to open the **Paper Menu**.

- c** Press **Menu>** until **Paper Size** appears on the second line of the display.
 - d** Press **Select** to select **Paper Size**.
 - e** Press and release **Menu>** until **Manual Pap Size** or **Manual Env Size** appears on the second line of the display.
 - f** Press **Select** to open a list of paper or envelope sizes.
 - g** Press **Menu>** or **<Menu** to scroll through the list of paper or envelope sizes.
 - h** When the size you need appears on the second line of the display, press **Select**.
 - i** Press **Go** to return the printer to the ready state.
- 3** Make sure the **Paper Type** setting is appropriate for the media you're loading in the tray.
- See page 18 for more information about the **Paper Type** setting.
- 4** If you're loading an envelope, a transparency, or a sheet of labels or card stock, select the rear output bin.
- This allows media to feed through the printer along a straight path, thereby reducing curl and stacking problems.
- 5** When the printer is in the ready state, send the job to print.



6 When Load Manual appears on the operator panel display, insert a single sheet of media in the feeder.

- a** If necessary, press the bottom of the multipurpose feeder until it clicks into the loading position.
- b** Slide open the multipurpose feeder's right and left paper guides until there is enough room to load the media.
- c** Adjust the left and right paper guides to fit snugly against the media.



d Press the green release lever to the left to position the media for printing.

7 If you are printing additional pages manually, insert a single sheet or envelope each time the printer prompts you with the Load Manual message.

6

Replacing supplies

Periodically you'll need to install new toner cartridges and the items included in the two photoconductor kits (listed below). You may find it helpful to keep these replacement supplies on hand so you can operate your printer without interruption.

Ordering supplies

Following are the order numbers for each supply:

Routine maintenance supplies

Part number	Supply item	Approx. yield
12A1451	Magenta Toner Cartridge	6,500 pages (5% coverage)
12A1452	Cyan Toner Cartridge	
12A1453	Yellow Toner Cartridge	
12A1454	Black Toner Cartridge	
12A1455	Color Photoconductor Kit (includes cyan, magenta, and yellow photoconductors)	13,000 pages
12A1450	Black Photoconductor Kit (includes a black photocon- ductor and a fuser coating roll)	

Other supplies

Part number	Supply item
12A1706	Fuser coating roll ¹
12A0540	Transparencies ² (letter size)
12A0541	Transparencies ² (A4 size)
¹ The fuser coating roll, packaged separately from the Black Photoconductor Kit, is not a routine maintenance item. Order this part number only if you're experiencing print quality problems resulting from repetitive printing of the same images or patterns. See page 95 for more information.	
² See page 76 for more information about transparencies.	

If you're in the U.S., call 1-800-438-2468 to order supplies from Lexmark Direct or to request information about Lexmark Authorized Supplies Dealers in your area. The following table lists appropriate phone numbers for other countries. In countries not listed, contact a representative at the place where you bought your printer.

Contacts for supplies information

Region	Country	Phone number
North America	Canada	888 453 9226
	U.S.	800 438 2468
Latin America	Headquarters	305 447 2200
	Argentina	54 1 319 8900
	Brazil	55 11 820 5733
	Mexico	52 5 254 2435
Asia / Pacific	Australia	61 2 930 3500
	Hong Kong	852 825 6168
	Japan	81 3 3523 7077
	Singapore	65 227 3488
	Taiwan	886 2 713 1000

Contacts for supplies information (continued)

Region	Country	Phone number
Europe	Austria	43 1 797 32 0
	Belgium	32 2 716 74 11
	Denmark	45 45 82 55 11
	Finland	358 0 452 34 00
	France	33 1 46 67 40 00
	Germany	49 6074 488 0
	Italy	39 2 28 103 1
	Netherlands	31 20 56 32 800
	Norway	47 22 76 35 00
	Spain	34 1 436 0048
	Sweden	46 8 705 79 00
	Switzerland	41 1 722 88 11
	United Kingdom	44 1628 481 500

Storing supplies

Choose a cool, clean storage area for your printer supplies. Store toner cartridges and photoconductors in their original packaging until you are ready to install them.

Do not expose printer supplies to:

- Direct sunlight
- Temperatures above 35°C (95°F)
- High humidity (above 80%)
- Salty air
- Corrosive gases
- Heavy dust

When do I replace them?

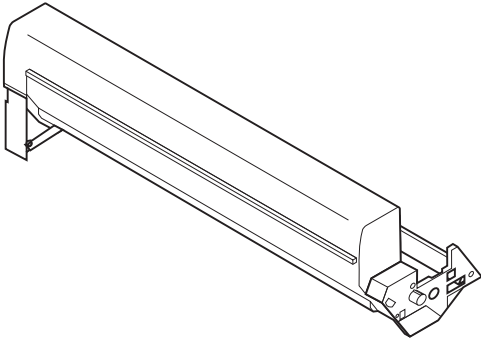
Your printer displays **Supplies** on the second line of the operator panel display when there are any supplies that need attention. Press **Menu>** or **<Menu** to open the Supplies Menu and quickly determine whether you need to add toner, replace a photoconductor, or load paper.

The average *yield* of a supply is the average number of pages you can print before you need to replace the supply. The actual yield varies, depending on factors such as the printer settings you choose, the toner coverage on each printed page, and the size paper you use.

The paper size affects the printer's page count calculations. The printer counts an A4 or letter size sheet as one page; however, it counts a B4 or legal size sheet as 1.2 pages, and an A3 or 11x17 size sheet as 2 pages. Therefore, if you print all your jobs on A3 paper, the yield for a particular supply may appear to be half the yield claimed for that supply.

The following sections provide details about when you need to replace each supply.

Toner cartridges



The average yield of each toner cartridge is 6,500 pages. The actual yield depends on the density of print on each page and whether you have Toner Saver set On.

When the printer detects that the toner supply in a particular cartridge is getting low, it posts the **88 color Toner Low** message. If you do not already have a replacement toner cartridge available, order one at this time.

Press **Go** to clear the attendance message. The **Supplies** status message then appears on the second line of the display to remind you there are supplies that need attention. Open the Supplies Menu to see which toner cartridge is low.

The printer also continues to display the **88 color Toner Low** message each time you turn the printer on and each time you open and close the top cover, until you replace the toner cartridge or until it's empty.

After recognizing the toner is low, the printer counts 250 pages and then displays **88 color Toner Empty**. When this message appears, *you must install a new toner cartridge before you can continue printing.*

Note: When a **Toner Empty** message appears on the display, you cannot use your printer until you replace the toner cartridge.

If you notice a reduction in print quality after the **Toner Low** message appears, you may want to replace the cartridge before the **Toner Empty** message is displayed. It is also possible that the developer roll inside the toner cartridge needs replacing before you use all of the toner in the cartridge. See "Identifying other problems" on page 109 for information about printing problems that may indicate it's time to replace the toner cartridge.

When you need to install a new toner cartridge, refer to the installation instructions that come with the new cartridge.

Photoconductors

The photoconductor is the cylindrical drum that inserts in the toner cartridge. Just as there is a cyan, magenta, yellow, and black toner cartridge, there is also a unique cyan, magenta, yellow, and black photoconductor. Together, the photoconductor and the toner cartridge create the *print unit*.

You can purchase the black photoconductor separately. However, the three color photoconductors come packaged together. You should always replace all three color photoconductors at the same time.

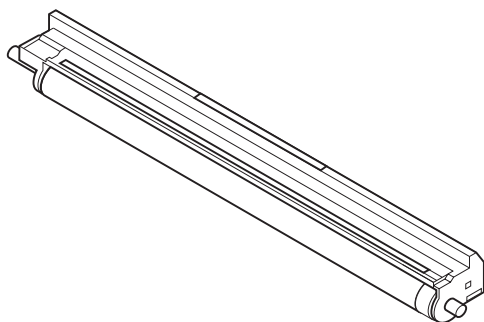
The average yield of each photoconductor is 13,000 pages. The actual yield depends on the size paper you use and the Printer Usage setting you select from the Setup Menu. If you select Maximum Speed—the printer default—the printer alerts you to replace all four photoconductors at the same time. If you select Maximum Yield, you will probably replace the black photoconductor before you need to replace the three color photoconductors. See “Printing color and mono jobs” on page 63 for more information about the Printer Usage settings.

After the printer determines that the photoconductors have printed 12,900 pages, the printer displays **84 Color PC Life Warning** or **84 Black PC Life Warning**. If you do not already have replacement photoconductors available, order them at this time.

Press **Go** to clear the attendance message. The **Supplies** status message then appears on the second line of the display to remind you there are supplies that need attention. Open the Supplies Menu to view the status of the four photoconductors.

After posting the **PC Life Warning** messages, the printer counts 100 pages and then displays **84 Color PC Drums Exhausted** or **84 Black PC Drum Exhausted**. If the print quality is still acceptable, you can press **Go** and resume printing. However, the printer continues to display the **PC Drum Exhausted** message each time you turn the printer on and each time you open and close the top cover until you replace the photoconductors.

You’ll want to replace the photoconductors when you notice print quality problems, such as light printing, spots on the page, or voids in printed characters. See page 109

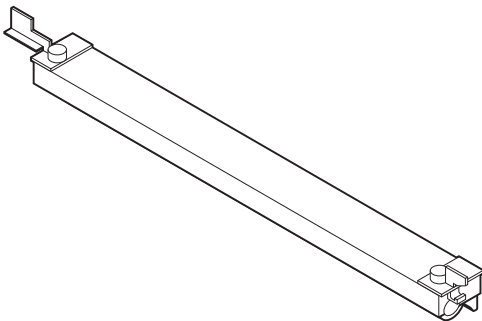


for more information about print quality problems that may be caused by worn out photoconductors.

When you need to install new photoconductors, refer to the installation instructions that come with the photoconductors. Each time you replace the black photoconductor, be sure you also replace the fuser coating roll.

After you replace the photoconductors and close the printer's top cover, the printer synchronizes the four photoconductors to correct the color registration. This adjustment may take up to 90 seconds, depending on the printer settings you have chosen.

Fuser coating roll



The fuser coating roll lubricates the hot roll with oil. It installs under the printer's rear cover.

To avoid damage to the fuser, replace the fuser coating roll each time you replace the black photoconductor. Refer to the installation instructions that come with the fuser coating roll in the black photoconductor kit.

With certain types of printing, you may experience print quality problems that indicate you need to replace the fuser coating roll before it's time to replace the black photoconductor. For example, if you repeatedly print the same images or fine line patterns or if you experience jams in the fuser, you may eventually notice toner specks on the front of the page or incomplete ghost images.

See "Identifying other problems" on page 109 for more information about related print quality problems. See page 89 for information about ordering a fuser coating roll separate from the black photoconductor kit.

Recycling used supplies



Lexmark's Operation ReSourceSM program lets you participate in a worldwide recycling effort at no cost to you.

Simply package your used toner cartridges and photoconductors in the shipping box used for the replacement supply. Then follow the instructions on the outside of the box to send the used supply back to Lexmark.

If a prepaid shipping label is not available for your country, contact the place where you bought your printer for additional recycling information.

Note: Lexmark does not recommend refilling used toner cartridges or purchasing refilled cartridges from a third party. Print quality and printer reliability cannot be guaranteed if you do. The printer warranty does not cover damage caused by using refilled cartridges.

Conserving supplies

There are several steps you can take to extend the life of your printer supplies and reduce overall printing costs. Depending on your printing requirements, you can reduce the amount of toner you use for each print job, print drafts of color documents in black only, and choose settings that help reduce wear on the photoconductors and the developer rolls inside the toner cartridges.

Toner Saver setting

Set Toner Saver On in the Color Menu to significantly reduce the amount of toner applied to each page. Print quality may vary, depending on the types of jobs you print. For example, if your document is composed largely of text and graphics, you may not detect any noticeable difference in the print quality when Toner Saver is On. If you are printing images, the colors in the images may appear slightly less saturated.

Black & White printing

If you're printing drafts of a color document, or you're printing a color document that you want to photocopy, set Color Correction to Black & White in the Color Menu. Your document prints in shades of gray suitable for reviewing or photocopying on a monochrome copier. This preserves the toner in the magenta, cyan, and yellow toner cartridges.

Printer Usage setting

If print speed is not critical to you, you can set Printer Usage to Maximum Yield in the Setup Menu to extend the life of the color photoconductors and toner cartridges.

If Maximum Yield is selected, the printer lowers the transport belt each time it detects a mono page (a page that requires only black toner). This allows the media to bypass the color print units as it travels through the paper path, thereby reducing wear. When the printer detects a page with color, it then elevates the transport belt and synchronizes all four print units. This adjustment may take up to 90 seconds, and thereby slows overall printing. The total effect this adjustment has on print speed depends on the mix of mono and color pages in the job, as well as the Timing Adjustment setting in the Setup Menu.

See "Printing color and mono jobs" on page 63 for more information about the Printer Usage and Timing Adjustment settings.

Replacing service items

After printing approximately 100,000 pages, the message **80 Scheduled Maintenance** appears on the printer display. This message indicates that it's time for a service technician to replace the fuser, transport belt, and roller set. Routine replacement of these parts ensures peak printer performance and helps prevent print quality problems and paper feed problems resulting from worn parts.

Lexmark offers a maintenance kit that contains the parts required for your printer. When the **80 Scheduled Maintenance** message appears, contact your service provider or the place where you bought your printer to order the appropriate kit.

Maintenance kit

Part number	Printer power supply
11G0601	115V, 750W
11G0602	220V, 750W

Warning! A trained service technician must install the items in the maintenance kit.

You can continue to use your printer until you are able to schedule a service call. Press **Go** to clear the **80 Scheduled Maintenance** message. The **Maintenance** status message appears on the display until you have the printer serviced.

Solving printer problems

Sometimes printer problems are very easy to solve. If your printer is not responding, first make sure:

- The printer cable is securely attached to the printer and the host computer.
- The power cord is plugged into the printer and a properly grounded electrical outlet.
- The printer is turned on.
- The electrical outlet is not turned off by any switch or breaker.
- The printer's top cover is completely closed.
- All printer options are properly installed.

Once you've checked each of these possibilities, turn the printer off and back on. This often fixes the problem.

If a message appears on the operator panel display, see page 100 for more information. If the message indicates the printer has a paper jam, turn to "Clearing paper jams" on page 118.

If you are having trouble determining the source of the problem, refer to the tables beginning on page 109. They identify some printing problems and offer suggestions for solving them.

Understanding printer messages

Your printer displays two types of messages: status messages and attendance messages. *Status messages* provide information about the current state of the printer. They require no action on your part. *Attendance messages*, on the other hand, alert you to printer problems that require your intervention.

A table listing the status messages follows. See “Attendance messages” on page 103 for a listing of the attendance messages and what you need to do to respond to them.

Status messages

Message	Meaning
Ready	The printer is ready to receive and process data.
Power Saver	<p>When your printer is in power saver mode, the Power Saver message replaces the Ready message on the display. When Power Saver is displayed, your printer is ready to receive and process data. See page 29 for more information about Power Saver mode.</p> <p>When Power Saver is displayed, you can:</p> <ul style="list-style-type: none"> • Press Go to quick start the printer. • Press Menu> or <Menu to enter the menus.
Engine Warming	The printer is warming the fuser to prepare for printing.
Performing Self Test	The printer is running the normal series of start-up tests it performs after it is turned on.
Busy	<p>The printer is processing or printing data. (The light on the operator panel flashes while this message is displayed.) If a job name has been defined, the name replaces the Busy message on the display.</p> <p>To cancel the print job, press Menu> or <Menu. The Job Menu is displayed. Press Menu> or <Menu until Cancel Job appears on the second line. Press Select.</p>
Waiting	<p>The printer has received a page of data to print but is waiting for an End of Job or Form Feed command or for additional data.</p> <ul style="list-style-type: none"> • To print the contents of the print buffer, press Go. • To cancel the print job, press Menu> or <Menu. The Job Menu is displayed. Press Menu> or <Menu until Cancel Job appears on the second line. Press Select.
Not Ready	<p>The printer is not ready to receive or process data, because someone selected Stop when another message was displayed.</p> <ul style="list-style-type: none"> • Press Go to take the printer out of the Not Ready state. • To cancel the print job, press Menu> or <Menu. The Job Menu is displayed. Press Menu> or <Menu until Cancel Job appears on the second line. Press Select.

Status messages (continued)

Message	Meaning
Ready Hex	<p>Hex Trace diagnostic mode is active, and the printer is ready to receive data. Use Hex Trace to isolate the source of a print job problem. With Hex Trace selected, all data sent to the printer is printed in hexadecimal and character representation. Control code strings are printed, not executed.</p> <p>To exit Hex Trace mode, turn the printer off or reset the printer. To reset the printer, press Menu> or <Menu. The Job Menu is displayed and Reset Printer appears on the second line. Press Select.</p>
Locking Menus	Someone has locked the menus. While the menus are locked, users cannot change the printer default settings from the operator panel. See "Locking the menus" on page 10 for more information.
Unlocking Menus	Someone has unlocked the menus. Users can now change the printer default settings from the operator panel. See "Locking the menus" on page 10 for more information.
Menus Disabled	Menus have been locked, or disabled. See page 10 for more information.
Supplies	At least one of the printer supplies needs attention. You may have a paper tray that is low on paper or a toner cartridge or photoconductor that needs replacing. Press Menu> or <Menu to open the Supplies Menu. See page 13 for more information about the menu.
Maintenance	It's time to replace the fuser, transport belt, and roller set. See "Replacing service items" on page 98 for more information.
Parallel	The standard parallel interface is the active communication link.
Parallel x	The specified parallel interface is the active communication link.
Serial x	The specified serial interface is the active communication link.
Network x	The specified network interface is the active communication link.
LocalTalk x	The LocalTalk interface is the active communication link.
Infrared x	The infrared interface is the active communication link.
Fax	The Fax interface is the active communication link.
Cancelling Job	The printer is processing a request to cancel the print job.
Resetting the Printer	The printer is deleting any print jobs in progress and restoring all print settings to the user defaults.
Flushing Buffer	The printer is flushing corrupted print data and discarding the current print job.
Printing Menu Settings	<p>A list of the user default settings and the installed options is printing.</p> <p>To cancel the print job, press Menu> or <Menu. The Job Menu is displayed. Press Menu> or <Menu until Cancel Job appears on the second line. Press Select.</p>

Status messages (continued)

Message	Meaning
Printing Font List	A list of available fonts for the selected printer language is printing. To cancel the print job, press Menu> or <Menu . The Job Menu is displayed. Press Menu> or <Menu until Cancel Job appears on the second line. Press Select .
Printing Directory List	A list of all the files stored in flash memory or on the hard disk is printing. To cancel the print job, press Menu> or <Menu . The Job Menu is displayed. Press Menu> or <Menu until Cancel Job appears on the second line. Press Select .
Printing Job Accounting Stat	A report of the accumulated statistics for the most recent print jobs is printing. To cancel the print job, press Menu> or <Menu . The Job Menu is displayed. Press Menu> or <Menu until Cancel Job appears on the second line. Press Select .
Clearing Job Accounting Stat	The printer is deleting all job statistics stored on the optional disk.
Restoring Factory Defaults	The printer is restoring factory defaults. See page 26 for details about which printer settings are affected.
Formatting Flash	The printer is formatting the flash memory. Do not turn the printer off while this message is displayed.
Programming Flash	The printer is storing resources in flash memory. Do not turn the printer off while this message is displayed.
Formatting Disk	The printer is formatting the hard disk. Do not turn the printer off while this message is displayed.
Programming Disk	The printer is storing resources on the hard disk. Do not turn the printer off while this message is displayed.
Network Card Busy	The network adapter is being reset. The Network x Setup menu is not available while this message is displayed.

Attendance messages

Message	Action
Close Top Covers	Close the printer's top cover and rear cover.
Insert Tray x	Insert the tray indicated (tray 1, 2, or 3).
Change tray	<p>The printer is requesting a different size or type media than what it detects is in the identified tray (tray 1, 2, 3, or the multipurpose feeder). The message displays either the custom media name defined using the MarkVision utility, the media size, or the media size and type it is looking for.</p> <p>To clear the message:</p> <ul style="list-style-type: none"> • If the correct paper type is loaded in the tray (but the Paper Type setting was not changed from the operator panel), press Go to continue printing. • Press Select to ignore the request and print on the media already installed in the tray. • Load media of the requested size and type in the tray indicated. • If you're printing on larger paper, make sure the Size Detection setting is correct. See page 21 for more information. • Cancel the print job. Press Menu> or <Menu. The Job Menu is displayed. Press Menu> or <Menu until Cancel Job appears on the second line. Press Select.
Load tray	<p>The printer is trying to feed paper from a source it detects is empty (tray 1, 2, 3, or the multipurpose feeder). The message displays either the custom media name defined using the MarkVision utility, the media size, or the media size and type it is looking for.</p> <p>To clear the message:</p> <ul style="list-style-type: none"> • Load media of the requested size and type in the tray indicated. • If you're printing on larger paper, make sure the Size Detection setting is correct. See page 21 for more information. • Cancel the print job. Press Menu> or <Menu. The Job Menu is displayed. Press Menu> or <Menu until Cancel Job appears on the second line. Press Select.
Load Manual	<p>You have sent a request for a manual feed job to the printer, and the printer is ready for you to insert a single sheet or envelope into the multipurpose feeder. The message displays either the custom media name defined using the MarkVision utility, the media size, or the media size and type it is looking for.</p> <p>To clear the message:</p> <ul style="list-style-type: none"> • Load media of the requested size and type in the multipurpose feeder. • Press Select or Go to ignore the manual feed request and print on media already installed in one of the paper sources. If the printer finds a tray that has media of the correct size and type, it feeds media from that tray. If the printer cannot find a tray with the correct media size and type, it prints on whatever media is installed in the default paper source. • Cancel the print job. Press Menu> or <Menu. The Job Menu is displayed. Press Menu> or <Menu until Cancel Job appears on the second line. Press Select.
Remove Paper Top Output	The top output bin is full. Remove the stack of paper and press Go .

Attendance messages (continued)

Message	Action
Print Jobs on Disk?	Jobs that were spooled to the optional hard disk before the printer was last turned off have not yet printed. Press Go to print the jobs. Press Return or Stop to delete the jobs from the disk without printing them.
Files Will be Lost. Go/Stop?	You have changed the Job Buffer Size setting from the operator panel, and the printer must reformat the hard disk to activate the change. If you press Go , all files currently stored on the disk will be deleted. Press Return or Stop to cancel this operation.
Invalid Font Data	The printer has detected an incompatibility between the font data and the firmware. You must download compatible font data to flash memory before the printer can return to the ready state.
Invalid Network x Code	The code in the specified network adapter has not been programmed or is invalid. You must download valid code to the network adapter before the printer can return to the ready state.
30 <i>color</i> Print Unit Missing	The specified print unit (Cyan, Magenta, Yellow, or Black) is not installed in the printer. Insert the print unit and close the top cover to clear the message.
33 Tray x Configuration Error	The printer has detected a tray with the rear paper guide in the wrong position. When loading A4 and letter size paper, make sure you place it in the tray with the long-edge of the sheet next to the front of the tray. Position the rear paper guide correctly for the paper size, then insert the tray in the printer.
35 Res Save Off Deficient Memory	<p>The printer lacks the memory needed to enable the Resource Save function. This message usually indicates that too much memory is allocated for one or more of the printer link buffers.</p> <p>To disable Resource Save and continue printing, press Go.</p> <p>To enable Resource Save after you get this message:</p> <ul style="list-style-type: none"> Set the link buffer for each interface to Auto, then exit the menus to activate the link buffer changes. When the Ready message is displayed, enable Resource Save from the Setup Menu. Or, install additional printer memory. See page 66 for more information.
37 Insufficient Collation Area	<p>The printer memory (or optional hard disk, if installed) does not have the space necessary to collate the print job.</p> <ul style="list-style-type: none"> Press Go to print the portion of the job already stored and begin collating the rest of the job. Cancel the print job. Press Menu> or <Menu. The Job Menu is displayed. Press Menu> or <Menu until Cancel Job appears on the second line. Press Select.

Attendance messages (continued)

Message	Action
38 Memory Full	<p>The printer is processing the job, but the memory used to store pages is full.</p> <ul style="list-style-type: none"> Press Go to clear the message and continue printing. Some data may not print or may not print correctly. Cancel the print job. Press Menu> or <Menu. The Job Menu is displayed. Press Menu> or <Menu until Cancel Job appears on the second line. Press Select. <p>To reduce the complexity of the job:</p> <ul style="list-style-type: none"> – Reduce the number of graphics or images on a page. – Delete unnecessary downloaded fonts or macros. – Change the Print Quality setting. <ul style="list-style-type: none"> Install additional printer memory to avoid future Memory Full errors.
39 Complex Page	<p>The text, graphics, and print information on the page require more memory to print than what you have installed in your printer.</p> <ul style="list-style-type: none"> Press Go to clear the message and continue printing. Some data may not print or may not print correctly. Cancel the print job. Press Menu> or <Menu. The Job Menu is displayed. Press Menu> or <Menu until Cancel Job appears on the second line. Press Select. <p>To avoid another Complex Page error:</p> <ul style="list-style-type: none"> – Set Page Protect On from the Setup Menu and resend the job. – Reduce the complexity of the page by using fewer fonts, macros, and graphics. – Install additional printer memory.
52 Flash Full	<p>There is not enough space available to hold the resources you want to store in flash memory.</p> <ul style="list-style-type: none"> Press Go to clear the message and continue processing. Downloaded fonts and macros not previously stored in flash memory or disk are deleted. Reset the printer. Press Menu> or <Menu. The Job Menu is displayed. Press Menu> or <Menu until Reset Printer appears on the second line. Press Select.
53 Unformatted Flash	<p>The flash memory installed in your printer has not been formatted. You must format the flash memory before downloading resources.</p> <p>Press Go to clear the message. To format flash memory, select Format Flash from the Tests Menu.</p>
54 Parallel Error	<p>The printer has detected a protocol error on the standard parallel interface. Check the cable connection between the printer and the computer, and make sure the cable is not defective.</p> <ul style="list-style-type: none"> Press Go to clear the message and continue printing. The job may not print correctly. Reset the printer. Press Menu> or <Menu. The Job Menu is displayed. Press Menu> or <Menu until Reset Printer appears on the second line. Press Select.

Attendance messages (continued)

Message	Action
54 Parallel Option x Error	<p>The printer has detected a protocol error on the specified parallel interface. Check the cable connection between the printer and the computer, and make sure the cable is not defective.</p> <ul style="list-style-type: none"> Press Go to clear the message and continue printing. The job may not print correctly. Reset the printer. Press Menu> or <Menu. The Job Menu is displayed. Press Menu> or <Menu until Reset Printer appears on the second line. Press Select.
54 Serial Option x Error	<p>The printer has detected a protocol error on the specified serial interface. Make sure the serial interface parameters are set up correctly and you are using an appropriate serial cable.</p> <ul style="list-style-type: none"> Press Go to clear the message and continue printing. The job may not print correctly. Reset the printer. Press Menu> or <Menu. The Job Menu is displayed. Press Menu> or <Menu until Reset Printer appears on the second line. Press Select.
54 Std Par ENA Connection Lost	<p>An external network adapter (ENA) that was once connected to the standard parallel port is no longer responding. The printer only recognizes the missing connection when the printer power is first turned on.</p> <ul style="list-style-type: none"> Make sure the cable connecting the ENA and the printer is securely attached. Turn the printer off and then on again to see if the printer recognizes the connection. Press Go to clear the message. The printer erases any reference to the ENA and then resets.
54 Par x ENA Connection Lost	<p>An external network adapter (ENA) that was once connected to the specified parallel port is no longer responding. The printer only recognizes the missing connection when the printer power is first turned on.</p> <ul style="list-style-type: none"> Make sure the cable connecting the ENA and the printer is securely attached. Turn the printer off and then on again to see if the printer recognizes the connection. Press Go to clear the message. The printer erases any reference to the ENA and then resets.
56 Std Parallel Port Disabled	<p>Data was sent to the standard parallel port, but the port has been disabled from the Parallel Buffer menu item.</p> <ul style="list-style-type: none"> Press Go to clear the message. The printer discards the data sent to the parallel port. Reset the printer. Press Menu> or <Menu. The Job Menu is displayed. Press Menu> or <Menu until Reset Printer appears on the second line. Press Select.
56 Parallel Port x Disabled	<p>Data was sent to the specified parallel port, but the port has been disabled from the Parallel Buffer menu item.</p> <ul style="list-style-type: none"> Press Go to clear the message. The printer discards the data sent to the parallel port. Reset the printer. Press Menu> or <Menu. The Job Menu is displayed. Press Menu> or <Menu until Reset Printer appears on the second line. Press Select.

Attendance messages (continued)

Message	Action
56 Serial x Port Disabled	<p>Data was sent to the specified serial port, but the port has been disabled from the Serial Buffer menu item.</p> <ul style="list-style-type: none"> Press Go to clear the message. The printer discards the data sent to the serial port. Reset the printer. Press Menu> or <Menu. The Job Menu is displayed. Press Menu> or <Menu until Reset Printer appears on the second line. Press Select.
61 Defective Disk	<p>The hard disk installed in your printer is defective. Press Go to clear the message and continue printing. You must install a different disk before you can perform any disk functions.</p>
62 Disk Full	<p>There is not enough space available to hold the resources you want to store on disk.</p> <ul style="list-style-type: none"> Press Go to clear the message and continue processing. Downloaded fonts and macros not previously stored in flash memory or disk are deleted. Reset the printer. Press Menu> or <Menu. The Job Menu is displayed. Press Menu> or <Menu until Reset Printer appears on the second line. Press Select.
63 Unformatted Disk	<p>The hard disk installed in your printer has not been formatted. You must format the disk before you can downloading resources to it.</p> <p>Press Go to clear the message. If the error message remains, the disk may be defective and need replacing.</p> <p>To format the disk, select Format Disk from the Tests Menu.</p>
70–79 Network	<p>Reserved for messages relating to the optional internal network adapter (INA) installed in your printer. For more information, refer to the online documentation included on the printer CD under “Network Printing.”</p>
80 Scheduled Maintenance	<p>The printer requires replacement of routine maintenance items, such as the fuser and transport belt, to maintain top performance and avoid print quality and paper feed problems. These items are in a maintenance kit available from Lexmark. You must have a trained service technician install the maintenance kit. See “Replacing service items” on page 98 for more information.</p> <p>The message appears when the printer maintenance counter determines 100,000 pages have printed. Failure to replace the maintenance kit items will not interrupt printer operation, but can result in unsatisfactory printer performance.</p>
84 Black PC Life Warning	<p>This message alerts you that you can print approximately 100 pages before the Black PC Drum Exhausted message appears. If you do not have a black photoconductor kit on hand, order it now. See page 89 for more information about ordering new supplies.</p> <p>Press Go to clear the message and continue printing. The Supplies status message is then displayed with the Ready, Power Saver, Busy and Waiting messages—unless another status message of higher priority is posted—until you replace the photoconductor.</p>

Attendance messages (continued)

Message	Action
84 Color PC Life Warning	<p>This message alerts you that you can print approximately 100 pages before the Color PC Drums Exhausted message appears. If you do not have new color photoconductors on hand, order them now. See page 89 for more information about ordering new supplies.</p> <p>Note: The cyan, magenta, and yellow photoconductors come packaged together. You cannot order them separately.</p> <p>Press Go to clear the message and continue printing. The Supplies status message is then displayed with the Ready, Power Saver, Busy and Waiting messages—unless another status message of higher priority is posted—until you replace the photoconductor.</p>
84 Black PC Drum Exhausted	<p>The black photoconductor has reached the end of its 13,000-page life. You may want to replace the photoconductor now. See page 94 for more information.</p> <p>If the print quality is still acceptable, press Go to clear the message and continue printing. The Supplies status message is then displayed with the Ready, Power Saver, Busy and Waiting messages—unless another status message of higher priority is posted—until you replace the photoconductor.</p> <p>When you replace the black photoconductor, make sure you also install the new fuser coating roll that is included in the black photoconductor kit.</p>
84 Color PC Drums Exhausted	<p>The three color photoconductors have reached the end of their 13,000-page life. You may want to replace the photoconductors now. When you do replace them, replace all three—cyan, magenta, and yellow—at the same time. See page 94 for more information.</p> <p>If the print quality is still acceptable, press Go to clear the message and continue printing. The Supplies status message is then displayed with the Ready, Power Saver, Busy and Waiting messages—unless another status message of higher priority is posted—until you replace the photoconductors.</p>
84 <i>color</i> PC Abnormal	<p>You have installed a defective photoconductor. You must replace the specified photoconductor before you can continue printing.</p>
88 <i>color</i> Toner Low	<p>The printer has detected that the toner supply in the specified cartridge is low. After printing approximately 250 more pages, the printer will display the 88 color Toner Empty message and cease operating until the toner cartridge is replaced. If you do not have the necessary supplies on hand, order them now. See page 89 for more information about ordering new supplies.</p> <p>Press Go to clear the message. The Supplies status message is then displayed with the Ready, Power Saver, Busy and Waiting messages—unless another status message of higher priority is posted—until you replace the toner cartridge. The 88 color Toner Low message is also displayed each time you turn the printer on and each time you open and close the top cover.</p>
88 <i>color</i> Toner Empty	<p>The printer has detected that the specified toner cartridge is completely out of toner. You must install a new toner cartridge before you can continue printing. See page 93 for more information.</p>

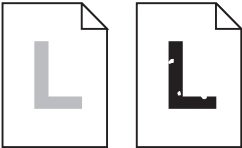
Attendance messages (continued)

Message	Action
2xx Paper Jam / Open Top Cover	<p>The printer has detected a paper jam in the area specified in the message. In some cases, the Open Top Cover message alternates with the Paper Jam message to remind you to open the top cover and remove jammed paper from inside the printer.</p> <p>You must remove all the paper from the entire paper path. Then close the top cover and press Go to clear the message. See page 118 for additional instructions on clearing a jam.</p> <p>See page 80 for information about avoiding jams.</p>
9xx Service	Turn the printer off and back on. If the service message recurs, call for service and report the message number and description of the problem. See page 129.

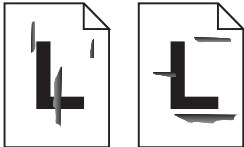



Identifying other problems

The information in the following tables may help you solve other printing problems. If these suggestions still do not correct the problem, call for service. You may have a printer part that requires cleaning or replacement by a service technician.

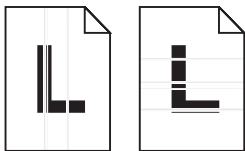
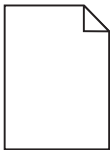

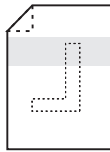
Print quality problems

Problem	Action
<p>Print is too light, or printed images or characters have voids or dropouts.</p> <div></div>	Make sure you're using recommended paper or other media. Use media from a new package.
	Make sure you have selected the correct Paper Type setting for the media you're using.
	Make sure the affected print unit is completely installed in the printer.
	Set Toner Saver Off from the Color Menu.
	Clean the LEDs. See page 126 for more information.
	If you suspect a toner cartridge is low on toner, remove the appropriate print unit and gently shake it back-and-forth to distribute the toner evenly. Reinsert the print unit and try printing the job again.
	Replace the affected toner cartridge. See page 89.
	Replace the photoconductors. If only black print appears light, you can replace just the black photoconductor. If one of the colors prints too light, replace all three of the color photoconductors. See page 94 for more information.


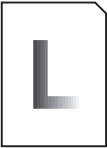


Print quality problems (continued)

Problem	Action
<p>Colored lines, streaks, or smudges appear on the printed page, or print appears blurred or unclear.</p> 	<p>Replace the photoconductors. If the problem only occurs when printing black, you can replace just the black photoconductor and fuser coating roll. If the problem occurs when printing one of the colors, replace all three of the color photoconductors. See page 94 for more information.</p>
<p>Toner specks appear on the page.</p> 	<p>Replace the fuser coating roll. If it is not time to order a black photoconductor kit, which includes a fuser coating roll, order a separate fuser coating roll (P/N 12A1706). See page 95 for more information.</p>
<p>Toner colors the background of the page.</p> 	<p>Make sure the affected print unit is completely installed in the printer.</p>
<p>The page has 100% coverage of one color.</p> 	<p>Make sure the system board is completely inserted in the printer and the thumb-screws are securely tightened. Refer to the <i>Setup Guide</i> for installation instructions.</p>
	<p>Make sure the affected print unit is completely installed in the printer.</p>
	<p>Replace the photoconductors. If the page is black, you can replace just the black photoconductor. If the page is another color, replace all three of the color photoconductors. See page 94 for more information.</p>

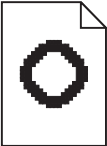

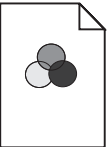
Print quality problems (continued)

Problem	Action
<p>Light lines or streaks appear on the printed page.</p> 	Clean the LEDs. See page 126 for more information.
	Make sure the affected print unit is completely installed in the printer.
	Remove the affected print unit and gently shake it back-and-forth to distribute the toner evenly. Reinsert the print unit and try printing the job again.
	Replace the affected toner cartridge. See page 89.
	Replace the photoconductors. If the problem only occurs when printing black, you can replace just the black photoconductor. If the problem occurs when printing one of the colors, replace all three of the color photoconductors. See page 94 for more information.
<p>The page is blank.</p> 	Make sure the affected print unit is completely installed in the printer.
	Replace the affected toner cartridge. See page 89.
<p>Toner smears or rubs off the page.</p> 	Make sure you're using recommended paper or other media.
	Make sure you have selected the correct Paper Type setting for the media you're using.
	Make sure the top cover is completely closed and both sides are snapped shut.
	You may need to replace the fuser. See page 98 for more information.
<p>Toner adheres to the back of the page.</p> 	Remove the fuser coating roll from under the printer's rear cover, and wipe it with a dry, lint-free cloth. See page 127 for more information.

Print quality problems (continued)

Problem	Action
<p>Printed materials delivered by the postal service arrive with ghosting or mirror images of the text visible on the page.</p> 	<p>When preparing printed materials for mailing:</p> <ul style="list-style-type: none">• Use 24 lb (90 g/m²) paper• Avoid rough paper; select paper with a smoothness from 100 to 150 Sheffield• Fold sheets with the text facing outward• Insert sheets in envelopes• Pre-barcode and pre-sort all envelopes• Meter envelopes or use pre-canceled stamps• Place envelopes in trays and deliver to the post office; do not drop envelopes into mail boxes or chutes
<p>Quality of printed transparencies is inadequate.</p> 	<p>Make sure you're using the recommended Lexmark transparencies. See page 76 for more information.</p>
	<p>Make sure you're loading transparencies properly. See page 77.</p>
	<p>When printing transparencies, always set the Paper Type to Transparency.</p>
	<p>Set the Color Correction menu item to Vivid. See page 15 or page 61 for more information.</p>
	<p>Avoid getting fingerprints on transparencies before printing.</p>
<p>Printed characters are not as crisp as you'd like.</p> 	<p>Set Toner Saver Off from the Color Menu.</p>
<p>Print on the page is skewed.</p> 	<p>Make sure the width guides in the paper tray or the multipurpose feeder fit snugly against the media you loaded.</p>
	<p>Make sure the paper you load in the trays fits under the two corner tabs at the front of the tray.</p>

Print quality problems (continued)

Problem	Action
<p>Quality of printed images is inadequate.</p> 	<p>Set Toner Saver Off from the Color Menu.</p>
	<p>Set Print Quality to Images or 1200 Image Quality. See page 15 or page 61 for more information.</p>
	<p>If you're printing low resolution images using PostScript Level 2 emulation, set Image Smoothing On. See page 39 for more information.</p>
<p>A white gap is noticeable between color fills, due to poor color registration.</p> 	<p>Make sure all four corners of the printer are resting on a level surface.</p>
	<p>Turn the printer off and back on. The printer calibrates the photoconductors and drive gears, which may improve registration.</p>
	<p>If the Printer Usage menu item is set to Maximum Yield, make sure the Timing Adjustment menu item is set to Gear and Drum. See page 33 or page 63 for more information.</p>
<p>Colors do not print as you expect.</p> 	<p>Make sure you have selected the appropriate Color Correction value for the job you're printing. See page 61 for more information.</p>

Printer problems

Problem	Action
You cannot insert the paper tray into the printer.	Press the plate in the bottom of the tray until it clicks. Then insert the tray in the printer.
You cannot insert a print unit into the printer.	Make sure the large green tab on the left of the print unit is pushed in. You cannot insert the print unit if this tab is released. See page 122.
The operator panel display is blank or only displays diamonds.	Make sure the system board is completely inserted in the printer and the thumb-screws are securely tightened. Refer to the <i>Setup Guide</i> for installation instructions.
	Make sure you have an even number of memory cards installed on the system board. You must install memory in pairs, beginning with the leftmost connector. Refer to the <i>Setup Guide</i> for installation instructions.
Toner drifts develop inside the printer.	Replace the photoconductors. If black toner is the problem, you can replace just the black photoconductor. If color toner is the problem, replace all three of the color photoconductors. See page 94 for more information.

Other printing problems

Problem	Action
Your job did not print or incorrect characters printed.	Make sure Ready (or Power Saver) appears on the first line of the operator panel display before you send a job to print. Press Go to return the printer to the ready state. If Ready Hex appears on the operator panel display, you must exit Hex Trace mode before you can print your job. To exit Hex Trace mode, reset the printer or turn the printer off and back on.
	Make sure the printer is not displaying a Toner Empty message. If it is, you cannot print until you replace the specified toner cartridge.
	Verify that you are using the correct printer driver.
	If you're using a parallel interface, make sure you're using an IEEE 1284-compliant parallel cable. We recommend Lexmark part number 1329605 (10 ft) or 1427498 (20 ft) for the standard parallel port.
	If you're using a Lexmark internal or external network adapter, verify that it is set up properly and the network cable is securely connected. Refer to the documentation that came with your adapter, or to the network documentation on the printer CD, for more information.

Other printing problems (continued)

Problem	Action
You cannot print color.	Make sure the Color Correction menu item is not set to Black & White.
	Make sure you're using a color printer driver.
	Make sure color printing is selected from the printer driver.
	Make sure the color print units are completely installed in the printer.
	Make sure the system board is completely inserted in the printer and the thumb-screws are securely tightened. Refer to the <i>Setup Guide</i> for installation instructions.
You cannot print the menu settings page.	Make sure the selected paper source holds A4, letter, or legal size paper. The menu settings page can only print on those paper sizes. Make sure the Paper Type setting for the selected source is Plain Paper.
You cannot print using the infrared port.	Make sure neither Infrared Port nor Infrared Buffer is set to Disabled in the Infrared Menu. Also check the Window Size and Transmit Delay settings. See page 51 for suggestions about changing these settings.
	Make sure the distance between the two infrared ports is 3 m (10 ft) or less. If necessary, move the ports closer together.
	Make sure no objects are between the two ports.
	Make sure the computer is set on a level surface.
	Bright light, such as direct sunshine or nearby artificial lights, may interfere with communication. If necessary, turn off lights in the room or close window shades or blinds.
You cannot print using the LocalTalk port.	Make sure neither LocalTalk Port nor LocalTalk Buffer is set to Disabled in the LocalTalk Menu.
	Verify that the printer is set up correctly in the Macintosh Chooser.
You cannot receive faxes via the fax port.	Make sure neither Fax Port nor Fax Buffer is set to Disabled in the Fax Menu.
	Make sure the fax machine you have connected to your printer is a class 1 fax modem.
	<p>If power to the modem has been interrupted, complete the following steps <i>in the order listed</i>:</p> <ol style="list-style-type: none"> 1 Turn the printer power off. 2 Turn the modem power on. 3 Turn the printer power on.

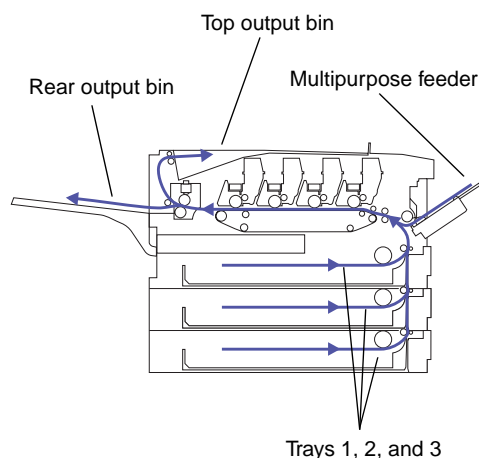
Other printing problems (continued)

Problem	Action
Paper does not feed properly.	Make sure you're using recommended paper or other media.
	Make sure the adjustable guides in the tray or multipurpose feeder are adjusted properly for the paper you loaded.
	Make sure the stack of media does not exceed the maximum stack height indicated on the tray or feeder.
	Make sure the paper you load in the trays fits under the two corner tabs at the front of the tray.
The printer does not recognize a paper size loaded in the tray.	The printer can only recognize A3 and B4 size paper or 11x17 and legal size paper. You must decide which paper sizes you want your trays to support. Choose the appropriate setting from the Size Detection menu item in the Paper Menu. See page 21 for more information.
	You can load the paper sizes your trays don't support in the multipurpose feeder. When using the multipurpose feeder, always select the correct paper size from the operator panel or from the driver.
The printer seems slow to print.	If you set Print Quality to 1200 Image Quality, it may take longer to print some complex jobs or jobs formatted for larger paper. Select another Print Quality setting if you need the job to print faster. See page 15 or page 61 for more information.
	Make sure you select the appropriate Paper Type setting before sending a job to print.
	If you set the Paper Type to Transparency or Card Stock, the printer increases the fuser temperature and slows printing to 3 ppm to improve the print quality. After printing on these media, the printer requires additional time to cool the fuser after you select another Paper Type setting (such as Plain Paper or Letterhead).
	If Printer Usage is set to Maximum Yield, the printer must adjust the photoconductors as it prepares to print a color page after printing a mono page. The printer performs this same calibration each time you turn the printer on and each time you open and close the top cover. Depending on the types of jobs you print, these adjustments may significantly slow print time.
	Setting Timing Adjustment to Gear Only may decrease the time necessary to complete the calibration, but you may notice inconsistent color registration on your printed pages.
	See page 33 or page 63 for more information about these settings.
	Reduce the complexity of your print job. Eliminating the number and size of fonts, the number and complexity of images, and the number of pages in a job may increase print speed.
	Set Page Protect Off from the Setup Menu. See page 32 for more information.

Other printing problems (continued)

Problem	Action
You can't collate a large job.	Reduce the complexity of your print job. Eliminate the number and size of fonts, the number and complexity of images, and the number of pages.
	Add more printer memory. See page 65 or refer to the <i>Setup Guide</i> for more information.
	Install an optional hard disk in your printer. See page 68, or refer to the <i>Setup Guide</i> for more information.
You get unexpected page breaks.	Check the Print Timeout setting in the Setup Menu. Increase the value.
Transparencies curl excessively.	Make sure you're using the recommended Lexmark transparencies. See page 76 for more information.
	Select the rear output bin when printing transparencies, rather than the top output bin.
Transparencies jam.	Fan transparencies before loading.
	If you just turned the printer on or the printer has been idle for a period of time, print on paper before trying to print on transparencies. For example, before printing transparencies, select Print Menus from the Tests Menu and print the menu settings page on a sheet of paper. Disabling Power Saver may also prevent transparencies from jamming after the printer has been idle. See page 29 for more information about the Power Saver setting.
	If the last transparency jams as you try to feed it from tray 1, place the cardboard sheet (with the cutout) included in the transparencies box in the bottom of tray 1 before loading transparencies.
You cannot remove paper jammed in the fuser.	Make sure the printer's top cover is completely open. Opening the top cover all the way releases the fuser roll so you can easily remove jammed paper.
You cannot clear the paper jam message.	To clear the paper jam messages, you must remove all paper from the printer's paper path. Check both inside the printer as well as the paper source you were using. Then open and close the top cover and press Go .
The page that jammed does not reprint after you clear the jam.	Set Jam Recovery to Auto or to On in the Setup Menu. See page 31 for more information.

Clearing paper jams



Note: When clearing a jam, open the top cover *completely* and clear all paper from the entire paper path. Make sure you also clear paper jammed in the paper tray. Then close the top cover and press **Go**.

By carefully selecting print materials and loading them properly, you should be able to avoid most paper jams. For more information on proper paper handling, see page 71. For tips on avoiding jams, see page 80.

When a jam does occur, the **Paper Jam** message that appears on the operator panel display indicates where to find the jammed paper. You must clear the paper from this area, but you must also *clear all paper from the entire paper path*. The illustration of the printer's paper path may help you.

After you have cleared all the paper, close the printer's top cover and press **Go** to clear the message. If you feel you have cleared all the paper from the paper path, but the paper jam message is still displayed, open and close the top cover and press **Go** again.

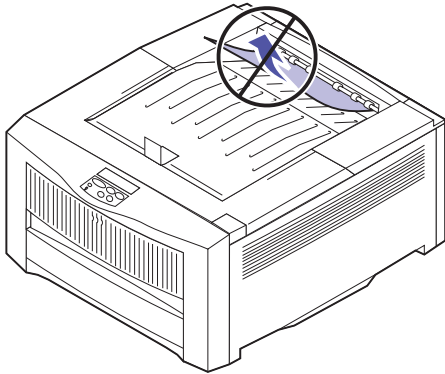
The Jam Recovery setting in the Setup Menu determines whether the printer reprints the jammed page. See page 31 for more information.

The following table lists the paper jam messages. Follow all the steps beginning on page 119—in the sequence presented—to clear a jam, regardless of which message appears on the display.

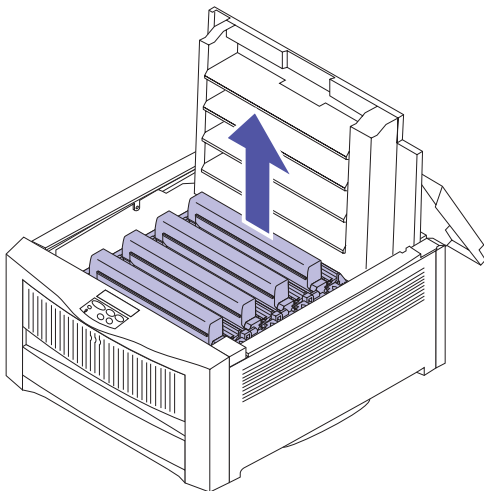
Paper jam messages

Message	To locate the jam...
200 Paper Jam	Open Top Cover
201 Paper Jam	Open Top Cover
202 Paper Jam	Open Top Cover
24x Paper Jam	Check Tray x
250 Paper Jam	Check MP Feeder

To clear a paper jam:



Warning! If you do not completely open the top cover, you may damage the fuser as you try to remove jammed paper.



1 Remove any paper stacked in the top output bin.

Do not pull jammed paper out of the paper exit area. To protect your printer, remove the jammed paper from inside the printer, as explained in the following steps.

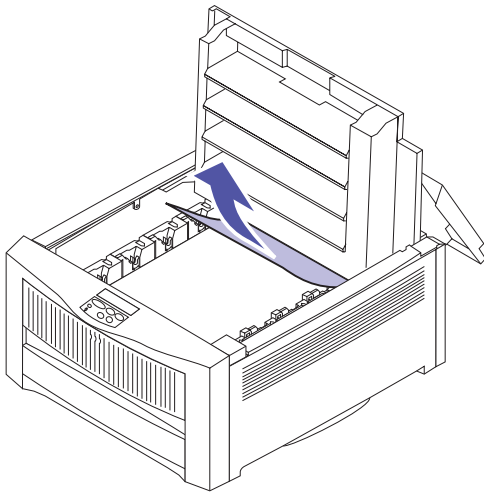
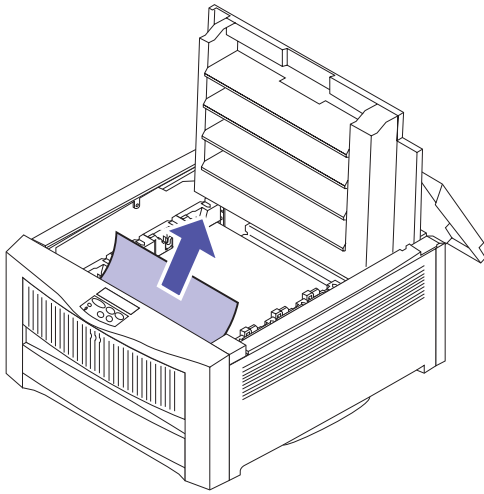
2 Press the release button on the printer's top cover and open the cover completely.

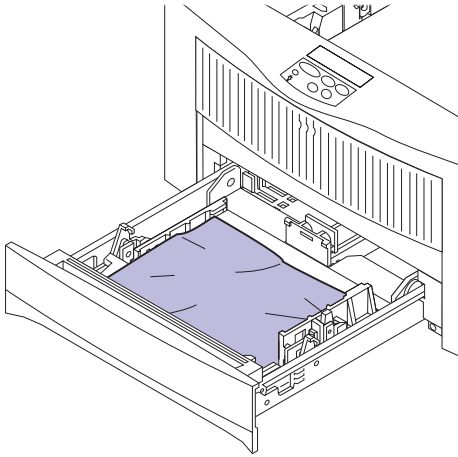
Push the cover open until it stops. It should rest in a near vertical position. Opening the top cover all the way releases the fuser roll so you can easily remove jammed paper.

3 Lift each of the four print units straight out of the printer and set the print units on a level surface.

Do not expose the print units to light for more than 10 minutes. If you anticipate it will take more time to clear the jam, cover the print units to protect them from light.

- 4** Carefully remove any jammed paper from inside the printer, as shown.



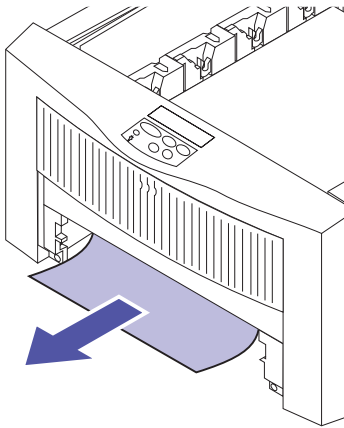


5 If you were printing from a paper tray:

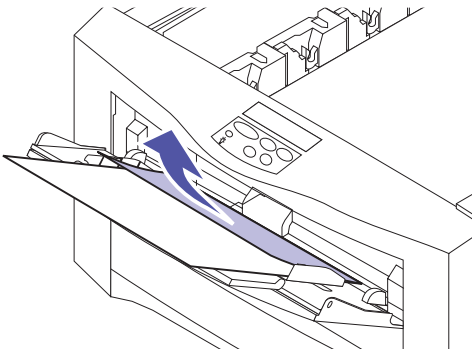
- a** Slide the tray completely out of the printer.

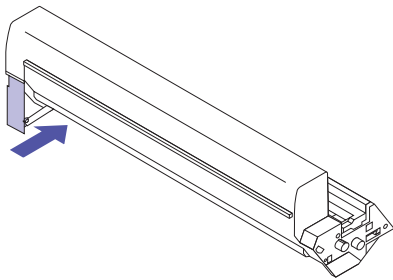
If you have trouble removing the tray, first remove the tray above or below it.

- b** Remove any damaged paper from the tray or the tray opening.



6 If you were printing from the multipurpose feeder, remove any jammed media from the feeder.





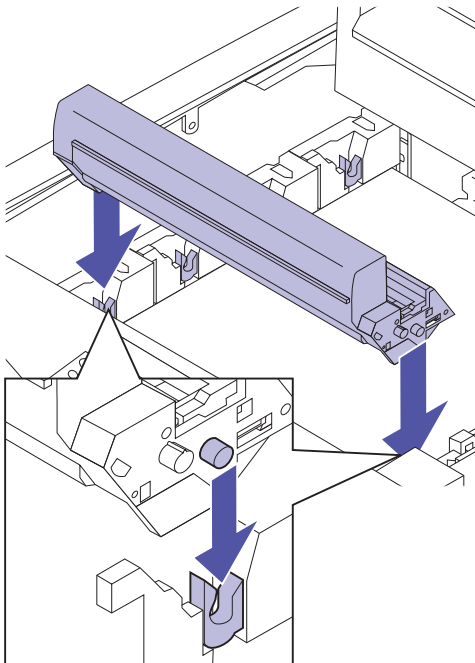
Warning! Do not force the print unit into the printer, or you may damage the photoconductor. If the print unit does not slide easily into place, make sure the green tab is pressed in.

7 Reinstall all four print units in the appropriate color-coded positions, starting with the magenta print unit at the front of the printer.

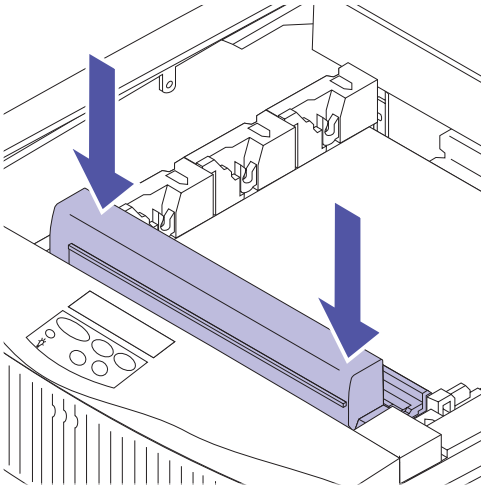
a Press the large green tab on the print unit until it clicks in place.

If the tab accidentally releases as you try to install the print unit, press it again until it clicks in place. You cannot install the print unit if the tab is released.

b Slide the print unit into the appropriate color-coded position, as shown.

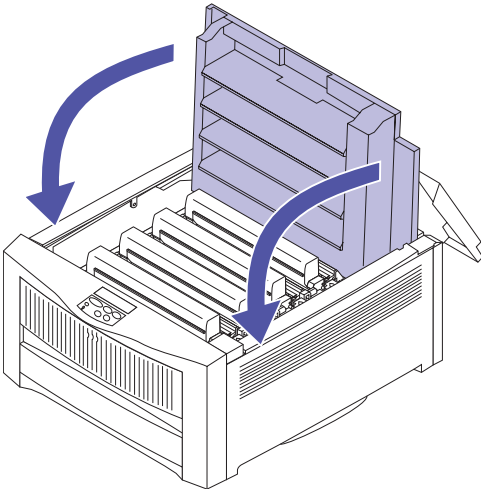


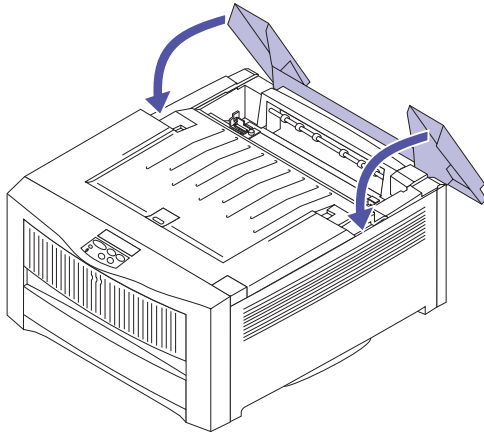
- C** Press the print unit until it is completely seated.



- 8** After you have installed all four print units, gently close the top cover until it clicks in place.

If the cover does not close easily, make sure each print unit is installed correctly. Do not force the top cover closed.





9 Close the rear cover.

10 Press **Go**.

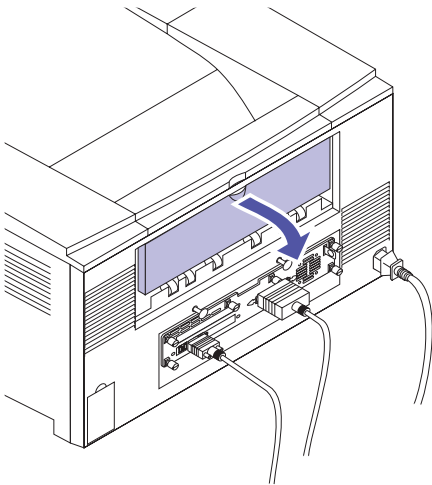
The printer clears the **Paper Jam** message and resumes printing. The Jam Recovery setting in the Setup Menu determines whether the printer reprints the jammed page. See page 31 for more information.

If a **Paper Jam** message remains on the display, make sure you:

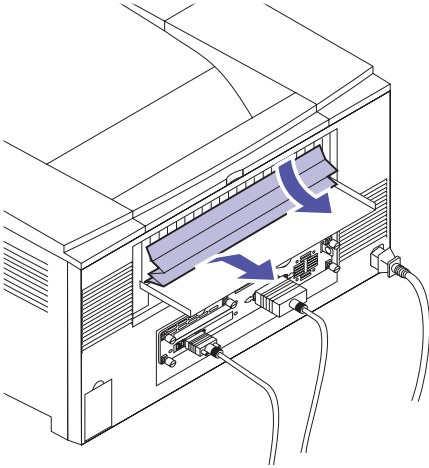
- Cleared all paper inside the printer.
- Cleared jammed paper from the paper source.
- Closed the top cover *after* clearing all paper in the path.
- Pressed **Go**.

If you still cannot clear the **Paper Jam** message, complete the following steps:

1 Open the jam access door at the back of the printer.

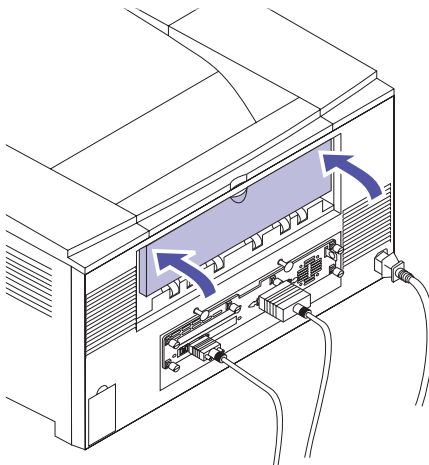


- 2** Clear any paper from the area.

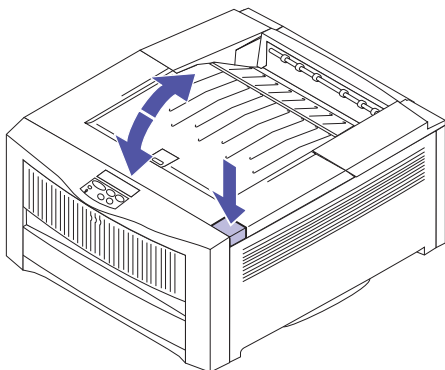


- 3** Close the jam access door.

Make sure you close the jam access door before you continue printing.



- 4** Open and close the printer's top cover and then press Go to clear the message.



Cleaning the LEDs

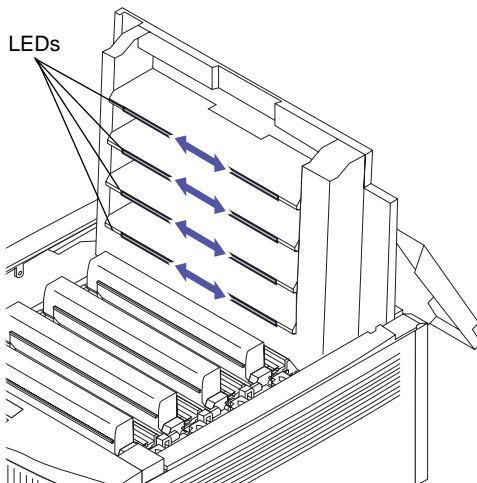
Warning! Avoid touching the LEDs with anything other than a lint-free cloth. Fingerprints or scratches may cause other print quality problems.

If you are experiencing print quality problems such as voids, light streaks, or light print, you may need to clean the LEDs inside the top cover.

To clean the LEDs:

- 1** Open the printer's top cover.
- 2** Use a dry, lint-free cloth to clean all four LEDs.
- 3** Gently close the top cover until it clicks in place.

If print quality problems continue, you may need to replace photoconductors or toner cartridges. See page 109 for more information.

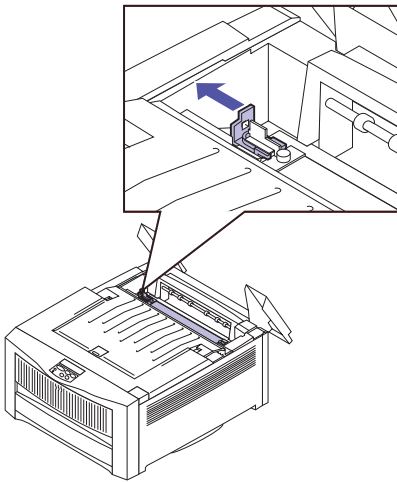


Cleaning the fuser coating roll

If toner adheres to the back of your page, particularly after a paper jam, cleaning the fuser coating roll may solve the problem.

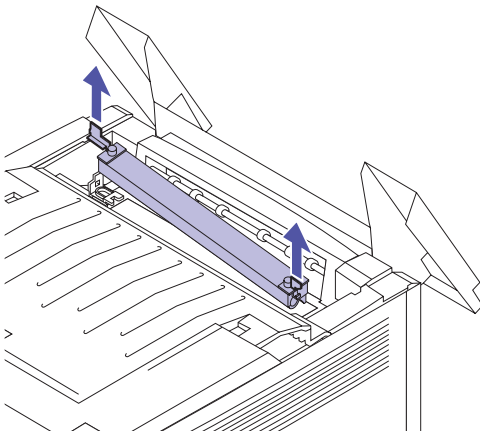
To clean the fuser coating roll:

- 1 Open the rear cover.
- 2 Slide the locking plate to the left to release the fuser coating roll.



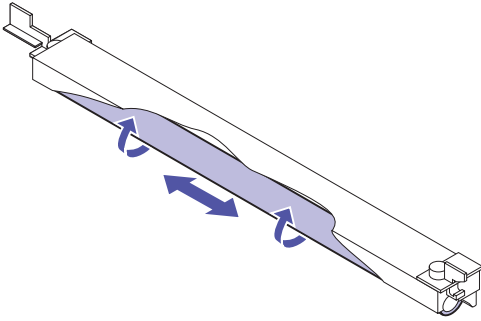
Caution! The fuser coating roll is very hot. Do not touch the roll with your hand.

- 3 Remove the fuser coating roll, as shown.

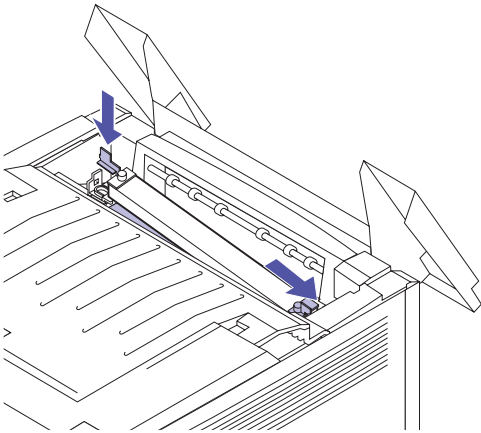


4 Use a dry, lint-free cloth to clean the roll.

Rotate the roll to make sure you clean the entire surface.

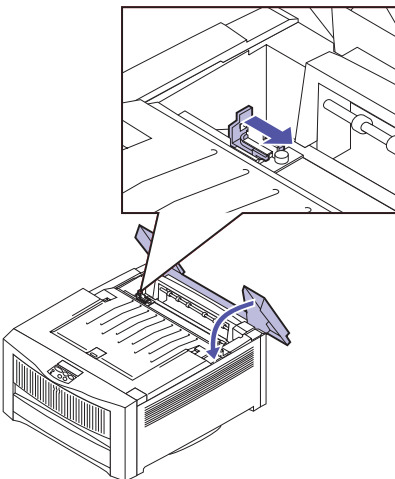


5 Reinstall the fuser coating roll, as shown.



6 Slide the locking plate to the right to secure the fuser coating roll in place.

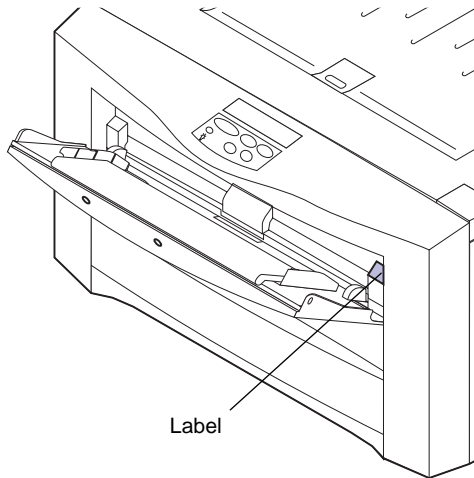
7 Close the rear cover.



Calling for service

When you call for printer service, be prepared to describe the problem you are experiencing or the error message on the printer operator panel.

You'll also need to know your printer model type and serial number. Lower the multipurpose feeder and refer to the label on the right. The serial number is also listed on the menu settings page you can print from the Tests Menu.





MarkVision

This appendix provides a quick overview of the MarkVision printer utility and some of its features. An online document detailing how to use some of the most popular MarkVision features is included on the CD that came with your printer. (This document is available in English only.)

Operating systems supported

MarkVision for Windows 95, Windows NT 4.0, Windows 3.1x, Macintosh, and OS/2 Warp was shipped with your printer. You can purchase MarkVision for UNIX networks and UNIX Intranet Servers and MarkVision for Sun Systems and Sun Intranet Servers from Lexmark. Contact a representative at the place where you bought your printer for more information.

Introducing MarkVision

MarkVision's graphical user interface provides ongoing status for Lexmark printers connected locally (via a bidirectional parallel port) or attached directly to a network (via an optional network adapter or print server). Workgroup administrators or key operators can create print queues to monitor only selected printers.

Printer status is reported by visual and audible alerts that you can customize for your work environment. In addition, messages on MarkVision's remote operator panel and the printer graphic reflect printer status. The printer graphic also gives you a visual confirmation of the options installed on the printer.

As a workgroup administrator, you can also use MarkVision to manage Lexmark printers attached to a network. MarkVision helps you configure the printers quickly and consistently, as well as establish a comprehensive inventory of the hardware and software features of each printer. You can use MarkVision to maintain printer usage statistics and manage downloaded resources, such as fonts or forms.

The appearance of the MarkVision window on your computer display varies, depending on your operating system, the version of MarkVision, and your network and printer configuration.

For example, when you first open MarkVision for Windows 95 or Windows NT 4.0, you see a list of all the printers MarkVision found at startup. Double-click a printer name to view a window similar to the following sample:



Features

The table on page 134 lists some of the key features of the MarkVision utility and indicates whether each feature is available for your workstation operating system. A brief summary of each feature follows the table. Scroll through the online Help included with MarkVision for more information about its functions, or refer to the MarkVision documentation included on the CD.

The majority of the features are most useful for network or workgroup administrators. In general, the information in the following sections is addressed to them. If a feature is helpful for a user at an individual workstation, “user” is clearly indicated in the section.

Lexmark is continually updating printer utilities to provide you optimum printer control. To get information about the newest versions of MarkVision, which may include new features or enhanced functions, use the Lexmark resources listed under “Getting updated utilities and drivers” on page 141.

Selected MarkVision features

		Windows 95 Windows NT 4.0	Windows 3.1	OS/2 Warp	UNIX	Mac
Centralized setup	Printer configuration	Yes	Yes	Yes	Yes	Yes
	Network adapter firmware setup	Yes	Yes	Yes	Yes	Yes
	MarkVision network installation	Yes	Yes	Yes	Yes	Yes
	Auto driver update	Yes	Yes ¹	No	No	No
	Uninstaller for MarkVision	Yes	Yes	Yes	Yes	Yes
Remote monitoring	Visual status	Yes	Yes	Yes	Yes	Yes
	Alerts	Yes	Yes	Yes	Yes	Yes
	Remote operator panel	Yes	Yes	Yes	Yes	Yes
Printer management	Custom media names	Yes	Yes	Yes	No	No
	Job statistics	Yes	Yes	Yes	Yes	Yes
	Printer inventory	Yes	Yes	Yes	Yes	Yes
	Property tag support	Yes	Yes ²	Yes	Yes	No
	Resource management	Yes	Yes	Yes	Yes	Yes
	Printer and network adapter password control	Yes	Yes	Yes	No	No
Job management	Job queue management	Yes	Yes ¹	Yes ³	Yes	No
	Print buffer management	Yes	Yes	Yes	No	Yes
	Job buffering	Yes	Yes	Yes	Yes	No

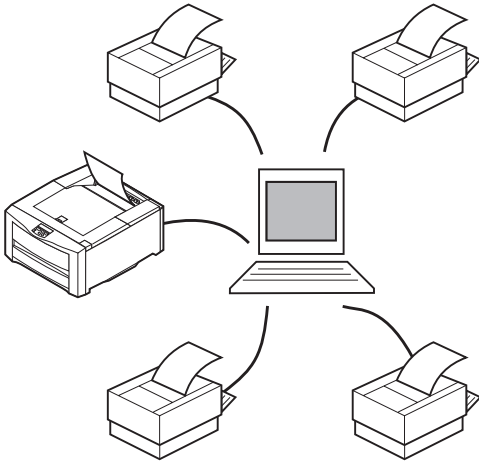
¹ Not supported for TCP/IP networks.

² Limited function.

³ Support for this feature provided by the operating system.

Centralized setup

MarkVision lets you set up several printers on a network without leaving your workstation.



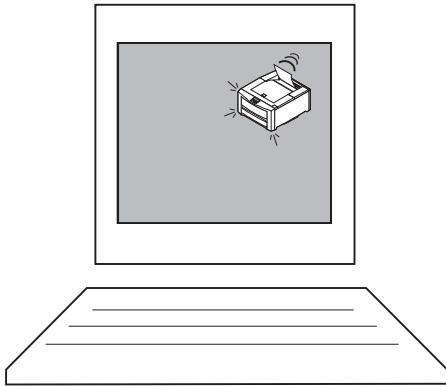
Printer configuration. MarkVision’s Quick Setup function lets you configure multiple printers simultaneously. Simply use MarkVision to set up one printer, save the settings into a file, and send that file to all the other printers you want to update.

Network adapter firmware setup. When new firmware is available for the network adapters installed in your printers, use MarkVision to upgrade all adapters from your workstation.

MarkVision network installation. Install MarkVision on a shared network drive and any user with access to the drive can install MarkVision on his workstation.

Auto driver update. If you select the “Server” installation method when you install MarkVision for Windows, MarkVision can compare the drivers on a local workstation to those stored on the network. If the workstation drivers are not as current as those available on the network, the user can have MarkVision automatically update the workstation drivers.

Uninstaller for MarkVision. Use the uninstaller whenever you need to remove the MarkVision utility from a workstation.



Remote monitoring

Use MarkVision to monitor printer status directly from your workstation.

Visual status. Network users can determine the current status for each printer and see a graphic of the options installed on each printer. With this information, the user can then easily identify the printer best suited for a particular print job.

Alerts. Unlike other network printer management software, MarkVision's alert-driven architecture lets you actively monitor the status of multiple printers on a real-time basis without polling. If an error occurs on a printer attached to your network, MarkVision immediately provides a visual and audible alert.

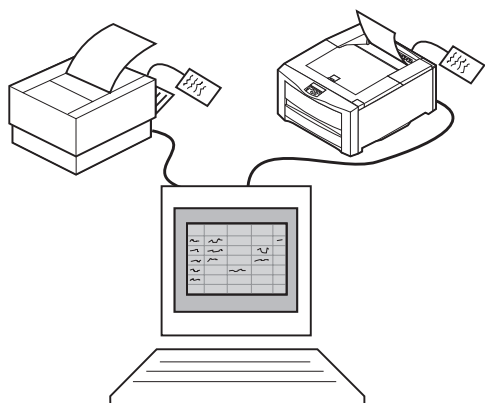
When minimized on your screen, the MarkVision icon flashes to let you know there is a problem with a printer. You can maximize the window to see a graphic of the printer and detailed information about the problem.

You can customize the alerts for each printer, choosing which alerts the user and the network administrator receive, and whether the alerts are visual, simple sounds, or spoken words. You can also identify which printers on a network you are responsible for monitoring, and receive information only about those specific printers.

Software developers writing DDE-enabled Windows applications can use DDE as a means of accessing printer information from MarkVision for Windows 3.1. For example, Lexmark offers an application that works with remote pagers to transmit printer status alerts to network administrators away from their workstations.

Remote operator panel. MarkVision's remote operator panel provides an exact replica of the selected printer's operator panel. The menus and messages appear just as they do on the printer display. You can then use the operator panel buttons to clear errors or step through the menus and change printer settings.

Printer management



The tabs in the MarkVision window that group related printer settings, as well as the remote operator panel, make it easy to view and change printer default settings. If necessary, you can use MarkVision to set up passwords that control who has authority to change these settings.

You can also use MarkVision to collect data about printer usage and printer hardware so you can better manage workloads and maintain an up-to-date printer inventory.

Custom media names. Use MarkVision to personalize names for different media you use with your printer. Network users can then easily select the correct paper source simply by selecting the custom name of the media the job requires.

Job statistics. MarkVision can collect data about individual printers or network printer activity, including user names, job duration, printer capabilities used, number of pages printed, and problems encountered. You can then print the job statistics data file, or import the data into a database application to generate the reports you need.

Printer inventory. MarkVision can collect information about the printers on your network and print a report listing the printer models, serial numbers, code versions, and installed options. You can save the report in a comma delimited file or as formatted output.

When you gather inventory information about the printers on a network, you can create a MIF file for each printer's data. You can then import the MIF files into various network management tools to create reports that may help with asset management and other tasks. The MIF file format is based on the standard layout approved by the Desktop Management Task Force (DMTF).

Property tag support. Use MarkVision to define company-specific information about each printer on a network, such as a unique printer name, the name of the person using the printer, the location of the printer, and so on. This information is available when you request a printer inventory from MarkVision.

Resource management. MarkVision provides a directory of all the fonts, overlays, and forms stored in flash memory or disk. The directory also lists the amount of memory available for each storage device. You can use MarkVision to delete, move, or copy files from one storage device to another on the same printer, or from one printer to another. In addition, you can use MarkVision to password protect resources on the storage devices.

MarkVision for Windows 3.1 groups several resource management tools in the printer Toolkit. Use the Toolkit to download fonts, overlays, and forms to the printers, as well as manage the resources once they are stored in flash memory or disk.

Printer and network adapter password control. If you have MarkVision installed in a network environment without built-in security, such as TCP/IP, you can use MarkVision to set up printer and network adapter passwords. The network administrator may want to assign a password to the printer or to the network adapter to restrict the ability to change adapter or printer settings from MarkVision. Passwords can be set up for specific users and for specific printers. This security function does not override existing network security functions.

If your network does have built-in security, MarkVision has access to the logon authority granted to each LAN user within the network operating system. MarkVision honors this logon authority when granting access to MarkVision functions.

Job management

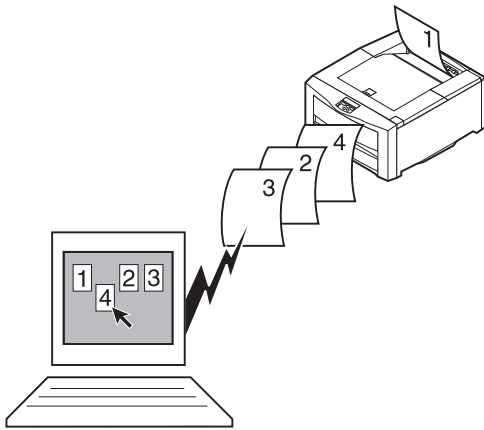
Use MarkVision to manage jobs in the queue.

Job queue management. You can use MarkVision to view, reorder, cancel, and release print jobs in server queues.

Print buffer management. You can also use MarkVision to view and cancel print jobs already stored in the print buffer.

Job buffering. If you have an optional hard disk installed in any of your printers, you can use MarkVision to designate a percentage of disk space for job buffering. You can enable or disable job buffering for each of the available interface ports (parallel, serial, network, LocalTalk, or infrared).

Job buffering allows the printer to remain busy even if the host computer, network connection, or printer server is down. Jobs buffered to disk are retained even if the power supply to the printer is interrupted.



MarkVision online Help

Context-sensitive online Help is available from all MarkVision screens. Point to any option, right mouse click, and click “What’s This.”

MarkVision for Windows 95 and Windows NT 4.0 includes detailed step-by-step procedures for using many MarkVision functions. To view these procedures, select Help from the MarkVision Printer Window menu bar and click Help Topics.

MarkVision for OS/2 Warp and MarkVision for Macintosh also offer task-oriented information. The online Help in MarkVision for Macintosh includes full-color illustrations.

Installing MarkVision on a network

The following table defines which workstation operating systems can support MarkVision in various network environments. All of the printer and network utilities necessary to install MarkVision on your workstation are included on the CD shipped with your printer, unless you need to purchase a separate CD for UNIX or Sun systems.

For more information about setting up your printer for a specific network, refer to the documentation that came with the optional network adapter or print server, or to the network documentation on the CD.

MarkVision network support

Network operating system	Workstation operating system					
	Windows 95	Windows NT 4.0	Windows 3.1x	OS/2 Warp ¹	UNIX	Mac
Novell NetWare 3.x, 4.x	Yes ²	No	Yes	No	No	No
Windows NTS 3.5, 3.5.1	Yes ³	Yes	Yes ³	No	No	No
Windows NTS 4.0	Yes ³	Yes ³	Yes ³	No	No	No
Windows 95 (Peer-to-Peer)	Yes	No	No	No	No	No
OS/2 LAN Server and OS/2 Warp ¹ Server	Yes ⁴	Yes ⁴	Yes ⁴	Yes	No	No
TCP/IP ⁵	Yes	Yes	Yes	Yes	Yes	No
AppleTalk	No	No	No	No	No	Yes

¹ OS/2 3.x requires a bidirectional print spooler. Request the latest FixPak from IBM.

² Requires a 32-bit Requester from Novell.

³ To set up the Windows NT server to support clients using Windows operating systems, select "Server Utilities" from the Install window when running the Network Printer Utility.

⁴ To set up the OS/2 server to support clients using Windows operating systems, select "Server and Workstation Utilities" from the Install window when running the Network Printer Utility.

⁵ Server/Network operating system independent.

You can also install MarkVision for Windows NT Intranet Servers on a workstation running Windows NT and a supported web server. MarkVision for Windows NT Intranet Servers lets you use a supported web browser, such as Netscape Navigator or Microsoft Internet Explorer, to access MarkVision from any client workstation, regardless of the operating system installed.

Getting updated utilities and drivers

There are a number of ways you can get information about the latest Lexmark utilities and drivers, including MarkVision and the Network Printer Utilities. For helpful phone numbers, refer to the Contacting Lexmark information on the CD or in the MarkVision Printer Utility folder on the Windows desktop.

Online services

If you have access to an online service, you can download printer drivers and updates to MarkVision and other printer utilities from Lexmark 24 hours a day, 7 days a week. The addresses are:

- Internet server: <ftp.lexmark.com>
(driver files are located at /pub/driver)
- World Wide Web (WWW):
<http://www.lexmark.com>
- CompuServe: go lexmark

Automated fax system

In the U.S. and Canada, you can get a list of available drivers by dialing the Lexmark Automated Fax System. The system is available 24 hours a day, 7 days a week.

To access the Automated Fax System from the U.S. or Canada, call (606) 232-2380 from a touchtone phone and follow the voice prompts. You can request information on how to use the system, request a catalog of documents available, or choose a specific document you want sent to you. The system prompts you for the phone number of the fax machine that will receive the information you requested.

B Printer specifications

Standard features

Feature	Description
Print method	Dry electrophotographic process using LED printheads
Print addressability	600 dpi
Maximum print speed	12 ppm (letter and A4 paper)
Fonts	<ul style="list-style-type: none"> • 75 resident scalable fonts: <ul style="list-style-type: none"> – PostScript Level 2 emulation: 39 Optra compatible plus 36 additional – PCL emulation: 45 LaserJet compatible plus 30 additional • 2 PCL bitmap fonts: <ul style="list-style-type: none"> – LinePrinter – POSTNET Barcode • FontVision™ font manager utility with 110 fonts • World class international font support: 77 symbol sets, including support for Canadian, French, Brazilian, Portuguese, Cyrillic, and Greek
Paper input	<ul style="list-style-type: none"> • 250-sheet tray • Multipurpose feeder
Paper output	<ul style="list-style-type: none"> • Top output bin: 250 sheets (collated) • Rear output bin: 100 sheets (uncollated)
Paper sizes supported	A4, A5, JIS B4, JIS B5, A3, letter, legal, 11 x 17
Printer memory	32MB (two 16MB 50 ms EDO SIMMS) Note: Some printer models may ship with more memory.
Flash memory	4MB (for permanent storage of fonts, logos, and forms)
Interface	Parallel (standard Centronics protocol that complies with bidirectional IEEE 1284B)

Standard features (continued)

Feature	Description
Internal solutions ports	2 ports for network adapters, tri-port adapters, or parallel port adapters 1 connector for hard disk 2 pairs of memory connectors
Printer software	MarkVision utility that lets you manage your printer from your computer. Supported in the following environments: Windows 95, Windows NT 4.0, Windows 3.1x, OS/2 Warp, Macintosh, UNIX.

Options

Option	Description
Optional drawer	Support unit and 250-sheet tray; up to two drawers may be installed underneath the printer
250-sheet tray	Replacement tray
Memory	<ul style="list-style-type: none">• 32MB option (two 16MB memory cards)• 64MB option (two 32MB memory cards) Maximum installed memory: 128MB
Hard disk option	2.5-inch hard disk to store fonts, forms, job statistics, and spooled jobs
Hard disk adapter ribbon cable	For installing compatible Lexmark or third-party hard disks
MarkNet S internal network adapters	Adapters available to support the following topologies: <ul style="list-style-type: none">• Ethernet 10BaseT and 10Base2• Ethernet 10/100BaseTX• Token-Ring (connects the printer to a Token-Ring network via DB9 or RJ45)
Tri-port adapter	Provides support for the following interfaces: <ul style="list-style-type: none">• Serial RS-232C/RS-422A (which can also be configured to support a class 1 fax modem)• High speed Infrared local connections• LocalTalk network connection
Parallel port adapter	Provides additional parallel port
Infrared adapter	For use with the tri-port adapter; receives infrared beam from an IrDA-compatible workstation
Serial interface adapter	Converts the printer's parallel port to a serial port
Parallel cables	High speed bidirectional 10-foot and 20-foot 1284-B parallel cables; 9.8-foot 1284 A-C parallel cable
Serial cable	50-foot serial cable

Printer supplies

Supply	Description	Approximate yield
Toner cartridges	Black, magenta, cyan, or yellow cartridges	6,500 pages each (5% coverage)
Photoconductors	Black photoconductor (with fuser coating roll) Cyan, magenta, and yellow photoconductors (packaged together)	13,000 pages each
Transparencies	A4 and letter size	

Dimensions

Dimension	Measurement
Height	303 mm (11.9 in.)
Width	555 mm (21.9 in.)
Depth	643 mm (25.3 in.)
Weight (with supplies installed)	51 kg (112 lb)



Fonts

Printing font samples

To print samples of all the fonts currently available for your printer:

- 1** From the printer operator panel, press **Menu>** or **<Menu** to enter the menus.
- 2** Continue to press and release **Menu>** until you see **TESTS MENU**.
- 3** Press **Select** to display the list of menu items for the Tests Menu.
- 4** Press **Menu>** until **Print Fonts** is displayed.
- 5** Press **Select**.
- 6** Press **Select** again to print a sample of all the fonts available in PCL emulation. Press **Menu>** and then press **Select** to print a sample of all the fonts available in PostScript Level 2 emulation.

Resident fonts

The scalable and bitmapped fonts resident in your printer are listed below. You can select the resident fonts from your software application, or from the printer operator panel if you're using PCL emulation.

Scalable fonts

The following scalable fonts are resident for both PCL emulation and PostScript Level 2 emulation:

- Albertus Medium
- Albertus Extra Bold
- Antique Olive
- Antique Olive Bold
- Antique Olive Italic
- Arial
- Arial Bold
- Arial Bold Italic
- Arial Italic
- Avant Garde Book
- Avant Garde Book Oblique
- Avant Garde Demi
- Avant Garde Demi Oblique
- Bookman Demi
- Bookman Demi Italic
- Bookman Light
- Bookman Light Italic
- Century Schoolbook Roman
- Century Schoolbook Bold
- Century Schoolbook Bold Italic
- Century Schoolbook Italic
- CG Omega
- CG Omega Bold
- CG Omega Bold Italic
- CG Omega Italic
- CG Times
- CG Times Bold
- CG Times Bold Italic
- CG Times Italic
- Clarendon Condensed Bold
- Coronet
- Courier
- Courier Bold
- Courier Bold Oblique
- Courier Oblique
- Garamond Antiqua
- Garamond Halbfett
- Garamond Kursiv
- Garamond Kursiv Halbfett
- Helvetica
- Helvetica Bold
- Helvetica Bold Italic

Helvetica Italic
Helvetica Black
Helvetica Black Oblique
Helvetica Light
Helvetica Light Oblique
Helvetica Narrow
Helvetica Narrow Bold
Helvetica Narrow Bold Italic
Helvetica Narrow Italic
Letter Gothic
Letter Gothic Bold
Letter Gothic Italic
Marigold
Palatino Roman
Palatino Bold
Palatino Bold Italic
Palatino Italic
Symbol
Times New Roman
Times New Roman Bold
Times New Roman Bold Italic
Times New Roman Italic
Univers Medium
Univers Medium Italic
Univers Bold
Univers Bold Italic
Univers Condensed Medium
Univers Condensed Medium Italic
Univers Condensed Bold
Univers Condensed Bold Italic
Wingdings
Zapf Chancery Medium Italic
Zapf Dingbats

Bitmapped fonts

The following bitmapped fonts are resident for PCL emulation only:

Line Printer 16
POSTNET Barcode

Symbol sets

A *symbol set* is the collection of alphabetic and numeric characters, punctuation, and special characters available in the font you select. Symbol sets support the requirements for different languages or specific applications, such as math symbols used for scientific text.

In PCL emulation, a symbol set also defines which character will print for each key on the keyboard (or more specifically, for each *code point*). Some applications require different characters at some code points. To support multiple applications and languages, your printer has 77 symbol sets for the resident PCL emulation fonts.

Symbol sets for PCL emulation

Not all font names support all of the symbol sets listed below. Refer to the printer *Technical Reference* to determine which symbols sets are supported by each font name.

- ABICOMP International
- ABICOMP Brazil/Portugal
- DeskTop
- German
- Greek-8
- ISO-2 IRV
- ISO-4 UK
- ISO-6 ASCII
- ISO-10 Swedish
- ISO-11 Swedish
- ISO-14 JIS ASCII
- ISO-15 Italian
- ISO-16 Portuguese
- ISO-17 Spanish
- ISO-21 German
- ISO-25 French
- ISO-57 Chinese
- ISO-60 Norwegian v1
- ISO-61 Norwegian v2
- ISO-69 French
- ISO-84 Portuguese
- ISO-85 Spanish
- ISO 8859-1 Latin 1
- ISO 8859-2 Latin 2
- ISO 8859-5 Latin/Cyrillic
- ISO 8859-7 Latin/Greek
- ISO 8859-9 Latin 5
- ISO 8859-10 Latin 6
- Legal
- Math-8
- MC Text
- Microsoft Publishing

PC-775 Baltic
PC-8 Bulgarian
PC-8 Code Page 437
PC-8 Danish/Norwegian
PC-8 Greek
PC-8 Greek Alternate 437G
PC-8 PC NOVA
PC-8 Polish Mazovia
PC-8 Turkish
PC-850 Multilingual
PC-851 Latin /Greek
PC-852 Latin 2
PC-853 Turkish/Latin 3
PC-855 Cyrillic/Serbia
PC-857 Turkish/Latin 5
PC-860 Portugal
PC-861 Iceland
PC-863 Canadian French
PC-865 Norway
PC-869 Latin/Greek
PC-911 Katakana
PC-1004 OS/2 L1
PC Cyrillic
PC-Ukrainian
Pi Font
POSTNET Barcode
PS ITC Zapf Dingbats
PS Math
PS Text
Roman-8
Spanish
Symbol
Turkish-8
USSR-GOST
Ventura ITC Zapf Dingbats
Ventura International
Ventura Math
Ventura US
Windows 3.0 Latin 1 Western
Windows 3.1 Latin 1 Western
Windows 3.1 Latin 2 Central Europe
Windows 3.1 Latin 5 Turkish
Windows Latin 6 Baltic
Windows Cyrillic
Windows Greek
Wingdings


Downloadable fonts

You can download scalable and bitmapped fonts in PostScript Level 2 emulation and PCL emulation. Fonts can be downloaded to printer memory, flash memory, or a hard disk option. Fonts downloaded to flash memory or disk remain in memory even after the printer language changes, the printer resets, or the printer is turned off.


The MarkVision utility includes a remote management function that lets you manipulate the font files you've downloaded to flash memory or disk. See page 131 for more information about MarkVision.




Safety information

- If your product is NOT marked with this symbol , it MUST be connected to an electrical outlet that is properly grounded.
- The power cord must be connected to an electrical outlet that is near the product and easily accessible.
- Refer service or repairs, other than those described in the operating instructions, to a professional service person.
- This product is designed, tested and approved to meet strict global safety standards with the use of specific Lexmark components. The safety features of some parts may not always be obvious. Lexmark is not responsible for the use of other replacement parts.
- Your product uses a printing process that heats the print media, and the heat may cause the media to release emissions. You must understand the section in your operating instructions that discusses the guidelines for selecting print media to avoid the possibility of harmful emissions.


Consignes de sécurité

- Si le symbole  n'apparaît PAS sur votre produit, ce dernier DOIT être branché sur une prise de courant mise à la terre.
- Le câble d'alimentation doit être connecté à une prise de courant placée près du produit et facilement accessible.
- L'entretien et les réparations autres que ceux décrits dans les instructions d'emploi doivent être effectués par le personnel de maintenance qualifié.
- Ce produit a été conçu, testé et approuvé pour respecter les normes strictes de sécurité globale lors de l'utilisation de composants Lexmark spécifiques. Les caractéristiques de sécurité de certains éléments ne sont pas toujours évidentes. Lexmark ne peut être tenu responsable de l'utilisation d'autres pièces de rechange.
- Le produit utilise un système d'impression qui chauffe le support d'impression duquel peuvent alors se dégager des émissions. Vous devez consulter les directives générales dans la section appropriée des instructions d'emploi pour savoir comment empêcher que ces émissions ne se produisent.


Norme di sicurezza

- Se il prodotto NON è contrassegnato con questo simbolo  DEVE essere collegato lo stesso ad una presa elettrica con messa a terra.
- Il cavo di alimentazione deve essere collegato ad una presa elettrica posta nelle vicinanze del prodotto e facilmente raggiungibile.
- Per la manutenzione o le riparazioni, escluse quelle descritte nelle istruzioni operative, consultare il personale di assistenza autorizzato.
- Il prodotto è stato progettato, testato e approvato in conformità a severi standard di sicurezza e per l'utilizzo con componenti Lexmark specifici. Le caratteristiche di sicurezza di alcune parti non sempre sono di immediata comprensione. Lexmark non è responsabile per l'utilizzo di parti di ricambio di altri produttori.
- Il prodotto in questione utilizza un processo di stampa che riscalda i supporti di stampa; il calore generato può determinare l'emissione di sostanze dannose da parte dei supporti. Leggere attentamente la sezione riportata nelle istruzioni riguardante le operazioni di selezione dei supporti di stampa in modo da evitare la possibilità di emissioni dannose.


Sicherheitshinweise

- Falls der Drucker nicht mit diesem Symbol  markiert ist, muß er an eine ordnungsgemäß geerdete Steckdose angeschlossen werden.
- Das Netzkabel muß an eine Steckdose angeschlossen werden, die sich in der Nähe des Geräts befindet und leicht zugänglich ist.
- Wartungsarbeiten und Reparaturen, mit Ausnahme der in der Betriebsanleitung näher beschriebenen, sollten Fachleuten überlassen werden.
- Dieses Produkt und die zugehörigen Komponenten wurden entworfen und getestet, um beim Einsatz die weltweit gültigen Sicherheitsanforderungen zu erfüllen. Die sicherheitsrelevanten Funktionen der Bauteile und Optionen sind nicht immer offensichtlich. Sofern Teile eingesetzt werden, die nicht von Lexmark sind, wird von Lexmark keinerlei Verantwortung oder Haftung für dieses Produkt übernommen.
- Dieses Produkt verwendet ein Druckverfahren, bei dem das Druckmedium erhitzt wird. Diese Erwärmung kann zu einer Freigabe von Emissionen des Druckmediums führen. Es ist daher wichtig, daß Sie in der Betriebsanleitung den Abschnitt, der sich mit der Auswahl geeigneter Druckmedien befaßt, sorgfältig durchlesen und die dort aufgeführten Richtlinien befolgen, um der Gefahr schädlicher Emissionen vorzubeugen.


Pautas de Seguridad

- Si su producto NO tiene este símbolo, , es IMPRESCINDIBLE conectarlo a una toma de corriente eléctrica con toma de tierra correcta.
- El cable de alimentación deberá conectarse a una toma de corriente situada cerca del producto y de fácil acceso.
- Cualquier servicio o reparación deberá realizarse por parte del personal cualificado, a menos que se trate de las averías descritas en las instrucciones de utilización.
- Este producto se ha diseñado, verificado y aprobado para cumplir los más estrictos estándares de seguridad global usando los componentes específicos de Lexmark. Puede que las características de seguridad de algunas piezas no sean siempre evidentes. Lexmark no se hace responsable del uso de otras piezas de recambio.
- Durante el proceso de impresión que utiliza este producto se calienta el medio de impresión, y el calor puede provocar que el medio emita gases. Para evitar emisiones peligrosas, el usuario deberá comprender y seguir lo expuesto en la sección de las instrucciones de utilización donde se describen las directrices para seleccionar el medio de impresión.


Veiligheidsvoorschriften

- Zorg ervoor dat uw produkt is aangesloten op een geaard stopcontact als het produkt NIET is gemarkeerd met het symbool .
- Het netsnoer moet worden aangesloten op een gemakkelijk bereikbaar stopcontact in de buurt van het produkt.
- Neem contact op met een professionele onderhoudstechnicus voor onderhoud en reparaties die niet in de bij het produkt geleverde instructies beschreven worden.
- Dit product is ontworpen, getest en goedgekeurd om te voldoen aan strenge internationale veiligheidsvoorschriften. De veiligheidsvoorzieningen van bepaalde onderdelen zullen niet altijd duidelijk zichtbaar zijn. Lexmark is niet verantwoordelijk voor het gebruik van andere vervangende onderdelen.
- Uw produkt gebruikt een afdrukproces waarbij het afdruk materiaal verhit raakt. Hierdoor kan straling vrijkomen. Lees het gedeelte in de bij het produkt geleverde instructies, waarin richtlijnen voor de keuze van afdruk materiaal worden beschreven, zorgvuldig door, zodat u mogelijke schadelijke straling kunt voorkomen.


Sikkerhedsoplysninger

- Hvis dit produkt IKKE er markeret med dette symbol , SKAL det sluttes til en stikkontakt med jordforbindelse.
- Ledningen skal sluttes til en stikkontakt, der er tæt på produktet og som er let tilgængelig.
- Service og reparationer, som ikke er beskrevet i brugsanvisningen, skal udføres af en kvalificeret tekniker.
- Dette produkt er udviklet, testet og godkendt i overensstemmelse med Lexmarks verdensomspændende standarder for sikkerhed. Delenes sikkerhedsfunktioner kan være skjulte. Lexmark påtager sig intet ansvar for brugen af uoriginale reservedele.
- Produktet benytter en udskrivningsproces, der opvarmer skrivemediet og denne varme kan føre til at udskriftsmedier afgiver dampe. Det er vigtigt at du forstår den del af brugsanvisningen, der omhandler valg af udskriftsmedium, så du kan undgå farlige dampe.


Sikkerhetsinformasjon

- Hvis produktet ditt ikke er merket med dette symbolet, , må det bare kobles til en stikkontakt som er jordnet.
- Ledningen må være koblet til en stikkontakt nær produktet. Stikkontakten må være lett tilgjengelig.
- La bare kvalifisert personale ta seg av service og reparasjon som ikke er direkte beskrevet i bruksanvisningen.
- Dette produktet er utviklet, testet og godkjent i overensstemmelse med strenge verdensomspennende sikkerhetsstandarder for bestemte Lexmark-deler. Delenes sikkerhetsfunksjoner kan være skjulte. Lexmark er ikke ansvarlig for bruk av uoriginale reservedeler.
- Produktet ditt bruker en utskriftsprosess som varmer opp skrivemediet, og varmen kan føre til utslipp. Forsikre deg om at du forstår den delen av bruksanvisningen som omhandler valg av utskriftsmedium, slik at du kan unngå farlige utslipp.


Säkerhetsanvisningar

- Om produkten INTE är märkt med denna symbol  MÅSTE den anslutas till ett jordat vägguttag.
- Nätkabeln måste anslutas till ett lättåtkomligt vägguttag i närheten av maskinen.
- Låt endast utbildad servicepersonal utföra sådan service och sådana reparationer som inte beskrivs i handledningen.
- Denna produkt är utformad, testad och godkänd för att uppfylla internationella säkerhetsbestämmelser när den används tillsammans med andra Lexmark-produkter. Säkerhetsegenskaperna för vissa delar är inte helt uppenbara. Lexmark fransäger sig ansvaret om delar av ett annat fabrikat används.
- Maskinen använder en utskriftsmetod som upphetar utskriftsmaterialet. Hettan kan i vissa fall leda till att materialet avger partiklar. Undvik skadliga partiklar genom att noga läsa det avsnitt i handledningen som beskriver hur man väljer utskriftsmaterial.


Informació de Seguretat

- Si el vostre producte NO està marcat amb el símbol  , S'HAURÀ de connectar a una presa elèctrica de terra.
- El cable de potència s'haurà de connectar a una presa de corrent propera al producte i fàcilment accessible.
- Si heu de fer una reparació que no figuri entre les descrites a les instruccions de funcionament, confieu-la a un professional.
- Aquest producte està dissenyat, comprovat i aprovat per tal d'acomplir les estrictes normes de seguretat globals amb la utilització de components específics de Lexmark. Les característiques de seguretat d'algunes peces pot ser que no sempre siguin òbvies. Lexmark no es responsabilitza de l'ús d'altres peces de recanvi.
- El vostre producte fa servir un procediment d'impressió que escalfa el mitjà d'impressió, i la calor pot fer que aquest mitjà alliberi emissions. Llegiu atentament l'apartat de les instruccions de funcionament on s'exposen les directrius de selecció del mitjà d'emissió per tal d'evitar la possibilitat d'emissions nocives.


Turvaohjeet

- Jos tuotteessa ei ole tätä tunnusta,  , sen saa kytkeä vain maadoitettuun pistorasiaan.
- Tuotteen verkkojohto on kytkettävä sitä lähellä olevaan pistorasiaan. Varmista, että kulku pistorasian luo on esteetön.
- Muut kuin käyttöohjeissa mainitut huolto- tai korjaustoimet on jätettävä huoltoedustajalle.
- Tämä tuote on testattu ja hyväksytty. Se täyttää korkeat maailmanlaajuiset turvallisuusvaatimukset, kun siinä käytetään tiettyjä Lexmarkin valmistusosia. Joidenkin osien turvallisuusominaisuudet eivät aina ole itsestään selviä. Lexmark ei vastaa muiden kuin alkuperäisten osien käytöstä.
- Tulostusmateriaali kuumenee tulostusprosessin aikana. Lämmön vaikutuksesta materiaalista saattaa irrota haitallisia aineita. Voit välttää haitalliset päästöt noudattamalla käyttöohjeissa annettuja tulostusmateriaalien valintaohjeita.


Informações de Segurança

- Se o produto NÃO estiver marcado com este símbolo,  , é necessário ligá-lo a uma tomada com ligação à terra.
- O cabo deve ser ligado a uma tomada localizada perto do produto e facilmente acessível.
- Para todos os serviços ou reparações não referidos nas instruções de operação, deve contactar um técnico dos serviços de assistência.
- Este produto foi concebido, testado e aprovado para satisfazer os padrões globais de segurança na utilização de componentes específicos da Lexmark. As funções de segurança de alguns dos componentes podem não ser sempre óbvias. A Lexmark não é responsável pela utilização de outros componentes de substituição.
- O produto utiliza um processo de impressão que aquece os materiais de impressão. Devido ao aquecimento, estes podem libertar emissões radioactivas. É necessário compreender as instruções de operação relativas à escolha dos materiais de impressão a fim de evitar emissões perigosas.

Informações de Segurança

- Se o produto NÃO estiver marcado com este símbolo, , ele DEVE SER conectado a uma tomada elétrica com ligação à terra.
- O cabo de alimentação deve ser conectado a uma tomada elétrica localizada perto do produto e de fácil acesso.
- Para todos os serviços ou reparações não descritos nas instruções de operação, entre em contato com um técnico dos serviços de assistência.
- Este produto está projetado, testado e aprovado para satisfazer os padrões globais de segurança para uso de componentes específicos da Lexmark. Os recursos de segurança de alguns componentes podem não ser sempre óbvios. A Lexmark não é responsável pelo uso de outros componentes de substituição.
- O produto usa um processo de impressão que aquece o meio de impressão. Devido ao aquecimento, o meio pode liberar emissões. É necessário que você entenda as instruções de operação sobre a escolha do meio de impressão, para evitar emissões perigosas.

Информация по технике безопасности

- Если приобретенное Вами изделие НЕ имеет маркировки , то его НЕОБХОДИМО подключать к надежно заземленной розетке.
- Кабель питания следует подключать к легкодоступной электрической розетке, расположенной вблизи от места установки изделия.
- Операции по обслуживанию и ремонту, за исключением описанных в настоящем Руководстве, должны выполняться специально обученным персоналом.
- Данное изделие спроектировано, испытано и прошло аттестацию на соответствии жестким глобальным стандартам безопасности в расчете на использование определенных частей производства фирмы Lexmark. Влияние отдельных деталей на безопасность не всегда очевидно. Фирма Lexmark не несет ответственности за использование запасных частей, отличных от рекомендованных.
- При печати на приобретенном Вами изделии происходит нагрев бумаги, что может привести к выделению из нее паров. Чтобы избежать воздействия вредных веществ, изучите раздел руководства по эксплуатации, в котором обсуждается вопрос выбора бумаги.

Przepisy bezpieczeństwa

Jeżeli produkt NIE jest oznaczony symbolem , może być podłączony TYLKO do prawidłowo uziemionego gniazda elektrycznego.


Kabel zasilający musi być podłączony do łatwo dostępnego gniazda elektrycznego, znajdującego się w pobliżu urządzenia.

Wszelkie naprawy i czynności serwisowe, oprócz opisanych w instrukcji obsługi, powinny być wykonywane przez autoryzowany serwis.


Produkt został zaprojektowany z wykorzystaniem określonych podzespołów firmy Lexmark i zatwierdzony jako spełniający światowe standardy bezpieczeństwa. Pozostałe podzespoły mogą nie spełniać tych warunków. Firma Lexmark nie ponosi odpowiedzialności za skutki używania innych części zamiennych.

Proces drukowania związany jest z podgrzewaniem nośnika, co może spowodować emisję związków chemicznych. Aby zmniejszyć ryzyko emisji szkodliwych substancji, należy zapoznać się ze wskazówkami dotyczącymi wyboru nośnika, zawartymi w odpowiednim rozdziale instrukcji użytkownika.


Güvenlik Bilgisi

- Ürünüzde  simgesi YOKSA, ürün doğru biçimde topraklanmış bir elektrik prizine TAKILMALIDIR.
- Güç kablosu, ürünün yakınında ve kolay ulaşılabilir bir elektrik prizine takılmalıdır.
- İşletim yönergelerinde açıklananlar dışında servis veya onarım için yetkili servis personeline başvurun.
- Bu ürün, özel Lexmark bileşenlerinin kullanımı konusundaki genel güvenlik standartlarına uyacak biçimde tasarlanmış, denenmiş ve onaylanmıştır. Bazı parçaların güvenlik özellikleri her zaman kesin olmaz. Lexmark, başka yedek parçaların kullanımından sorumluluk taşımaz.
- Ürününüz, üzerine baskı yaptığınız malzemeyi ısıtan bir yazdırma süreci kullanmaktadır ve ısı, üzerine baskı yaptığınız malzemenin emisyonu bırakmasına neden olababilir. İşletim yönergelerinizde, zararlı emisyon olanağını engellemek üzere üzerine baskı yapılacak malzemeyi seçme konusundaki ana hatları içeren bölümü dikkatli biçimde okuyunuz.


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- ・ ご使用の製品にこの  記号がついていない場合は、正しく接地（アース）してある電源コンセントに接続する必要があります。
- ・ 電源コンセントは、接続の邪魔となるような物がない近くの電源コンセントに接続してください。
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- ・ 有关维护或修理方面的细节，除了参考操作说明以外，还可连络专业服务人员。
- ・ 本产品使用特有的 Lexmark 元件，并依照严格的世界安全标准来设计、测试及验证。有些零件的安全功能可能不明显。对于其他厂牌更换零件的使用，Lexmark 概不负责。
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- 제품에  심볼이 표시되어 있지 않은 경우 제품을 적절히 접지되어 있는 전기 콘센트에 연결하여야 합니다.
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Notices

Energy Star



The EPA ENERGY STAR Computers program is a partnership effort with computer manufacturers to promote the introduction of energy-efficient products and to reduce air pollution caused by power generation.

Companies participating in this program introduce personal computers, printers, monitors, or fax machines that power down when they are not being used. This feature will cut the energy used by up to 50 percent. Lexmark is proud to be a participant in this program.

As an Energy Star Partner, Lexmark International, Inc. has determined that this product meets the Energy Star guidelines for energy efficiency.

German acoustics statement

The following measurements were made in accordance with ISO 7779 and reported in conformance with ISO 9296.

Acoustics

1-Meter Average Sound Pressure, dBa	
Printing	50 dBa
Idling	42 dBa

Electronic emissions notices

Electronic emission information for your printer varies, depending on whether or not you have an optional network adapter installed.

Without a network adapter installed

Federal Communications Commission (FCC) compliance information statement

The Optra Color 1200 printer, Type 5050, has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

The FCC Class B limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult your point of purchase or service representative for additional suggestions.

The manufacturer is not responsible for any radio or television interference caused by using other than recommended cables or by unauthorized changes or modifications to this equipment. Unauthorized changes or modifications could void the user's authority to operate this equipment.

To assure compliance with FCC regulations on electromagnetic interference for a Class B computing device, use a properly shielded and grounded cable such as Lexmark part number 1329605. Use of a substitute cable not properly shielded and grounded may result in a violation of FCC regulations.

Any questions regarding this compliance information statement should be directed to:

Director of Lab Operations
Lexmark International, Inc.
740 New Circle Road NW
Lexington, KY 40550
(606) 232-3000

Industry Canada compliance statement

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Avis de conformité aux normes d'Industrie Canada

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

European Community (EC) directives conformity

This product is in conformity with the protection requirements of EC Council directives 89/336/EEC and 73/23/EEC on the approximation and harmonization of the laws of the Member States relating to electromagnetic compatibility and safety of electrical equipment designed for use within certain voltage limits.

A declaration of conformity with the requirements of the Directive has been signed by the Director of Manufacturing and Technical Support, Lexmark International, S.A., Boigny, France.

This product satisfies the Class B limits of EN 55022 and safety requirements of EN 60950.

With a network adapter installed

Federal Communications Commission (FCC) compliance information statement

The Optra Color 1200 printer, Type 5050, has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

The FCC Class A limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

The manufacturer is not responsible for any radio or television interference caused by using other than recommended cables or by unauthorized changes or modifications to this equipment. Unauthorized changes or modifications could void the user's authority to operate this equipment.

Note: To assure compliance with FCC regulations on electromagnetic interference for a Class A computing device, use a properly shielded and grounded cable such as Lexmark part number 1329605. Use of a substitute cable not properly shielded and grounded may result in a violation of FCC regulations.

Industry Canada compliance statement

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Avis de conformité aux normes d'Industrie Canada

Cet appareil numérique de la classe A respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

European Community (EC) directives conformity

This product is in conformity with the protection requirements of EC Council directives 89/336/EEC and 73/23/EEC on the approximation and harmonization of the laws of the Member States relating to electromagnetic compatibility and safety of electrical equipment designed for use within certain voltage limits.

A declaration of conformity with the requirements of the Directive has been signed by the Director of Manufacturing and Technical Support, Lexmark International, S.A., Boigny, France.

This product satisfies the Class A limits of EN 55022 and safety requirements of EN 60950.

Warning

With a network adapter installed, this is a Class A product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

The United Kingdom Telecommunications Act 1984

This apparatus is approved under the approval number NS/G/1234/J/100003 for the indirect connections to the public telecommunications systems in the United Kingdom.



Warranty

Statement of Limited Warranty

Lexmark International, Inc., Lexington, KY

This warranty applies to the United States and Canada. For customers outside the U.S. and Canada, refer to the country-specific warranty information that came with your printer.

Optra Color 1200

This Statement of Limited Warranty applies to this product if it was originally purchased for your use, and not for resale, from Lexmark or a Lexmark remarketer, referred to in this statement as "Remarketer."

Warranty

Lexmark warrants that this product:

- Is manufactured from new parts, or new and serviceable used parts, which perform like new parts,
- Is free from defects in material and workmanship,
- Conforms to Lexmark's official published specifications, and
- Is in good working order.

If this product does not function as warranted during the warranty period, contact a Remarketer or Lexmark for repair without charge.

If this product is a feature or option, this statement applies only when that feature or option is used with the product for which it was designed. To obtain warranty service, you may be required to present the feature or option with the product.

If you transfer this product to another user, warranty service under the terms of this statement is available to that user for the remainder of the warranty period. You should transfer proof of original purchase and this statement to that user.

Warranty service

The warranty period is 12 months and starts on the date of original purchase as shown on the purchase receipt.

To obtain warranty service you may be required to present proof of original purchase. Warranty service will be provided at your location.

When warranty service involves the exchange of a product or part, the item replaced becomes the property of the Remarketer or Lexmark. The replacement may be a new or

repaired item. The replacement item assumes the remaining warranty period of the original product.

Replacement is not available to you if the product you present for exchange is defaced, altered, in need of a repair not included in warranty service, or damaged beyond repair. Also, such product must be free of any legal obligation or restrictions that prevent its exchange.

Before you present this product for warranty service, remove all programs, data, and removable storage media.

For further explanation of your warranty alternatives and the nearest Lexmark authorized servicer in your area, please contact Lexmark at 1-800-LEXMARK (1-800-539-6275), or on the World Wide Web at <http://www.lexmark.com>.

Extent of warranty

We do not warrant uninterrupted or error-free operation of a product.

Warranty service does not include repair of failures caused by:

- modification or attachments
- accidents or misuse
- unsuitable physical or operating environment
- maintenance by anyone other than Lexmark or a Lexmark authorized servicer
- operation of a product beyond the limit of its duty cycle
- failure to have installed a maintenance kit as specified (if applicable)
- use of printing media outside of Lexmark specifications
- use of other than Lexmark supplies (such as toner cartridges, inkjet cartridges, and ribbons)
- use of other than Lexmark product or component

ALL EXPRESS AND IMPLIED WARRANTIES, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED IN DURATION TO THE WARRANTY PERIOD. NO WARRANTIES, EXPRESS OR IMPLIED, WILL APPLY AFTER THIS PERIOD.

Limitation of liability

Your sole remedy under this Statement of Limited Warranty is set forth in this section. For any claim concerning performance or nonperformance of Lexmark or a Remarketer for this product under this Statement of Limited Warranty, you may recover actual damages up to the limit set forth in the following paragraph.

Lexmark's liability for actual damages from any cause whatsoever will be limited to the greater of 1) \$5,000 or 2) the amount you paid for the product that caused the damages. This limitation of liability will not apply to claims by you for bodily injury or damage to real property or tangible personal property for which Lexmark is legally liable. In no event will Lexmark be liable for any lost profits, lost savings, incidental damage, or other economic consequential damages. This is true even if you advise Lexmark or a Remarketer of the possibility of such damages. Lexmark is not liable for any claim by you based on a third party claim.

This limitation of remedies also applies to any developer of materials supplied to Lexmark. Lexmark's and the developer's limitations of remedies are not cumulative. Such developer is an intended beneficiary of this limitation.

Additional rights

Some states do not allow limitations on how long an implied warranty lasts, or do not allow the exclusion or limitation of incidental or consequential damages. If such laws apply, the limitations or exclusions contained in this statement may not apply to you.

This warranty gives you specific legal rights. You may also have other rights which vary from state to state.

Glossary

1200 Image Quality. A print quality setting that allows the printer to vary the size of each printed pixel, thereby producing a continuous tone effect. This setting improves the print quality of graphic fills, images, and halftones.

A

A3. Paper measuring 297 x 420 mm. Feeds short edge first.

A4. Paper measuring 210 x 297 mm. Feeds long edge first.

A5. Paper measuring 148 x 210 mm. Feeds long edge first.

additive color. Color produced by mixing different combinations of the primary colors red, green, and blue (RGB). Color computer screens produce additive color.

application. See *software application*.

attendance message. A message that appears on the operator panel display describing a printer problem. The printer requires operator intervention before it can continue processing.

automated fax system. Lexmark's quick turnaround system for providing customers product information, technical tips, and printer driver information. The automated attendant walks the customer through the steps necessary to receive information by fax.

B **B4.** Paper measuring 257 x 364 mm. Feeds short edge first.

B5. (1) Paper measuring 182 x 257 mm. Feeds long edge first. (2) Envelope measuring 176 x 250 mm.

baud. The rate at which data is sent to or received from the computer through the serial interface, in bits per second (bps).

bidirectional communication. Two-way communication between your printer and a computer, using Network Printing Alliance Protocol (NPAP 1.0 standard).

bin. See *output bin*.

bitmapped font. Predefined pattern of bits that represent a typeface at a specific size, style, and resolution.

bits per second (bps). A measurement of the speed of data being transferred through a serial interface.

bps. See *bits per second*.

buffer. A portion of memory used to temporarily store data.

Busy. A printer state in which the printer is processing data or printing pages.

byte. A group of eight binary digits processed as a unit. Typically used to represent an alphanumeric character.

C **C5.** Envelope measuring 162 x 229 mm.

calibration. The process of synchronizing the black and color toner cartridge drive gears as well as the black and color photoconductor drums for accurate registration.

card stock. Heavy, single-ply paper frequently used for reports or book covers.

Centronics parallel interface. A standard for connecting printers and other peripheral devices to a computer. It defines the plug, socket, and electrical signals that are used for controlling the transmission of data.

CMY. Abbreviation for cyan, magenta, and yellow. See also *subtractive colors*.

color registration. See *registration*.

composite black. The result of combining a mixture of each of the subtractive primary colors (cyan, magenta, and yellow). Also called *process black*.

configuration. (1) The arrangement of a computer system, printer, or network. (2) The devices and programs that make up a system, subsystem, or network.

curl. Curvature at the edge of a sheet of paper.

D

Data Set Ready (DSR). A “handshaking” signal contained in a serial interface indicating the device is ready to exchange information.

data stream. Print data and printer control information flowing from the host system (computer) to the printer without interruption.

Data Terminal Ready (DTR). A “handshaking” signal contained in a serial interface indicating the device is ready to exchange information.

default. An attribute, value, or setting that is assumed when none is explicitly specified.

developer roll. An element in the toner cartridge that provides an even layer of toner to the photoconductor during the imaging process.

disk. Optional device that you can install in the printer to provide non-volatile storage for downloaded fonts, symbol sets, or macros. A disk also lets you store job statistics, collate large jobs, and spool jobs to the disk.

display. The liquid crystal display on the printer operator panel that shows printer menus and messages.

DL. Envelope measuring 110 x 220 mm.

download. To transfer information, such as fonts, from a diskette or other device to your computer or printer for temporary or permanent storage.

dpi. Dots per inch. See *resolution*.

DRAM. See *dynamic random access memory*.

drawer. See *optional drawer*.

driver. See *printer driver*.

drum. The electrically charged surface within the photoconductor inside your printer. Light from the LEDs exposes the photosensitive material on the drum, creating a likeness of the page.

DSR. See *Data Set Ready*.

DTR. See *Data Terminal Ready*.

dynamic random access memory (DRAM). Memory that allows rapid storage and retrieval of data. DRAM contents are erased when electrical power is turned off.

E **EDO memory.** Extended Data Out memory. A memory chip technology that improves memory performance 10 to 15% over standard memory.

emulation. Imitation of a printer processing language; for example, PCL 5 emulation imitates the printer language used with the Hewlett-Packard LaserJet printer.

Ethernet. A network with a bus topology that utilizes carrier sense multiple access with collision detection (CSMA/CD). An Ethernet network may be installed using any of three cabling systems:

- Ethernet 10Base2 (using RG-58 coax)

- Ethernet 10BaseT (using telephone twisted pair cable)
- Ethernet 100BaseTX

external network adapter (ENA). A LAN device—such as the Lexmark MarkNet XLe or MarkNet Pro—that attaches externally to the printer and lets you connect various printers to your network, thereby freeing dedicated PC print servers for use as LAN workstations.

F **factory default.** Printer setting defined when the printer is manufactured.

Fastbytes protocol. A parallel printer protocol that enables the printer to receive information at faster transmission rates than normal.

flash memory. Memory that provides non-volatile storage for downloaded fonts, symbol sets, or macros.

font. A family or set of characters that have common visual characteristics, such as size, weight, and style; for example, Arial Bold.

fuser. The part of the printer that uses heat and pressure to make toner adhere to the paper.

fuser coating roll. A replaceable unit inside the printer that coats the fuser roll with oil.

G **grain.** The alignment of the paper fibers in a sheet of paper. For example, in grain long paper, the fibers run the length of the page.

graphics. Visual data, such as graphs and charts, that are usually generated electronically from a software application.

g/m². Grams per square meter. Metric measurement for paper weight.

H **handshaking.** The exchange of predetermined signals when a connection is established.

hard disk. See *disk*.

hex trace. A diagnostic printer mode that lets you print the uninterpreted printer data stream so you can see a hexadecimal and character representation of a print job.

Honor INIT. A printer setting that allows the printer to be reset by an initialization signal sent from the computer.

I **images.** Visual data typically scanned from original sources external to the PC, such as photographs or video frames.

INA. Internal network adapter. See *network adapter*.

infrared adapter. An external device that uses a low-power infrared beam to allow a computer to exchange data with a printer without a physical connection between the two.

interface. The connection between the computer and the printer.

J **job accounting.** A printer feature that lets you store statistical information about your printer's most recent jobs on an optional disk installed in your printer.

job buffering. A printer feature that lets you spool print jobs to an optional disk installed in the printer.

K **KB.** Kilobyte; 1024 bytes.

L **LAN.** See *local area network*.

landscape orientation. Printed page orientation in which the print runs along the long edge of the paper.

LCD. See *liquid crystal display*.

LED. Light emitting diode. A chip that projects pinpoints of light to create an image on the photoconductor drum.

legal. Paper measuring 8.5 x 14 in. Feeds short edge first.

letter. Paper measuring 8.5 x 11 in. Feeds long edge first.

lines per page (lpp). The number of lines of text that can be printed on one page.

link. The connection between the computer system or local area network and the printer.

liquid crystal display (LCD). The display technology that shows menu selections and messages on the operator panel.

local area network (LAN). A computer network located on a user's premises within a limited geographical area.

LPTx. A representation of one of the logical parallel ports (for example, LPT1) on a personal computer.

M **macro.** A collection of commands grouped together and temporarily or permanently stored in printer memory.

manual feed. Feeding one sheet of media (paper, envelope, transparency) into the printer at a time.

MarkNet Pro. See *external network adapter*.

MarkNet S. Family of multi-protocol Lexmark INAs. Versions for Ethernet and Token-Ring available.

MarkNet XLe. See *external network adapter*.

MarkVision. A printer utility that works with the printer's bidirectional communication capability to provide continuous printer status and let you configure multiple printers from a single setup file.

MB. Megabyte; 1,048,576 bytes.

media. Any materials you print on, such as paper, envelopes, labels, and transparencies.

menu. The choices for displaying, altering, or testing printer features and settings.

multipage printing. Prints the images of a specified number of pages on one sheet of paper. For example, select 4-Up to print reduced images of pages 1–4 on the first sheet of paper, 5–8 on the second sheet, and so on.

multipurpose feeder. Paper feeder on the front of the printer that lets you load a small stack of envelopes, transparencies, labels, card stock, and odd-size paper.

N

network. A group of computers, printers, and other hardware devices connected to each other so they can share information.

network adapter. The network card you install in your printer to connect your printer to a local area network.

Not Ready. A printer state in which the printer does not accept data from the computer. This state is initiated either by operator intervention or a printer error.

n-up printing. See *multipage printing*.

O

operating system. The basic software that provides the low-level functions needed to operate your computer, such as booting up.

Operation ReSource. Lexmark's process established to recycle toner cartridges and photoconductors.

operator panel. The buttons and liquid crystal display on the printer that are used to change printer settings and display printer status.

operator panel display. See *display*.

optional drawer. The support unit you install under your printer that holds a 250-sheet paper tray.

optional tray. 250-sheet tray you can purchase for your printer.

orientation. The perspective describing whether the printed text runs along the short (portrait) or long (landscape) edge of the paper.

output bin. Any paper exit area. The default is the top output bin, which allows the paper to exit face down and collated.

overlay. Background text or graphics intended to appear the same in each file where the overlay is applied.

P

pages per minute (ppm). The number of typical pages of text that can be printed in one minute.

paper guides. Sliding parts in the paper trays that define proper placement of paper. Failing to properly adjust the paper guides may result in paper jams.

paper type. A printer setting that defines the type of media (plain paper, letterhead, or transparency, for example) loaded in a specified tray.

parallel interface. A bidirectional interface for exchanging data between the computer and the printer.

pel. Picture element. The smallest addressable unit that can be effectively reproduced by the printer.

photoconductor. An element of the print unit that works similarly to film in a camera. As the photoconductor drum rotates, it uses positive and negative charges to alternately attract the toner necessary to define the image produced by the LEDs and transfer the image to the page.

pitch. A unit of measure that designates the number of characters that can be printed in 1 horizontal inch. For example, a 10-pitch font prints 10 characters per inch (cpi).

point. A unit of measure that designates the height of a printed character (1 point = 1/72 in.).

point size. The height of the characters in a font.

portrait orientation. Printed page orientation in which the print runs along the short edge of the paper.

power saver. A printer setting that reduces power usage when the printer is idle. When the **Power Saver** message is displayed, the printer is ready to receive print jobs.

ppm. See *pages per minute*.

primary color. Colors that, when combined, produce white in an additive color system and black in a subtractive color system. Red, green, and blue (RGB) are the additive primaries. Cyan, magenta, and yellow (CMY) are the subtractive primaries.

print material. See *media*.

print server. See *external network adapter*.

print unit. The assembled unit inside the printer that includes the toner cartridge and developer and the photoconductor.

printer driver. A program that translates the language of a software application to the language of the printer so the two can communicate data.

printer language. A set of defined commands (such as PCL or PostScript) to which the printer responds.

process black. See *composite black*.

proportionally spaced font. A font that varies the width of the character to allow uniform spacing around characters.

protocol. A set of rules governing the communication and the transfer of data between two or more devices.

R **RAM.** See *random access memory*.

random access memory (RAM). Memory that allows rapid storage and retrieval of data. RAM contents are erased when electrical power is turned off.

Ready. State of the printer in which it can receive, process, and print data. Press the **Go** button to return the printer to the ready state. When the printer is in the ready state, the message **Ready** or the message **Power Saver** appears on the operator panel display.

rear output bin. Output bin you attach to the back of the printer. Allows for a straight paper path when feeding from the multipurpose feeder.

rear paper guide. Sliding part at the back of the paper tray that defines the proper placement of paper and communicates to the printer the paper size loaded.

receive-only fax. A printer function possible if an optional tri-port adapter is installed. You can set up the serial port to receive faxes from a class 1 fax modem.

registration. The alignment of all layers of the four color planes (cyan, magenta, yellow, and black) on the page. See also *calibration*.

resolution. A measure of the sharpness of a printed image, expressed in the number of dots per inch (dpi).

RGB. Abbreviation for red, green, and blue. See *additive color*.

- S** **scalable font.** A font whose characters are stored only as outlines so it is easy to change (or scale) the size of the characters (measured in points).
- screen font.** A font you download to your computer so it appears the same on the computer screen as it does on a printed page.
- serial interface.** A way of communicating between computer and printer by transmitting data one bit at a time.
- server.** A device that allows the sharing of resources, such as printers, on a network.
- service message.** A printer message that indicates the printer needs service.
- setting.** Values you choose from printer menus or software applications that control printer operation and the appearance of the printed page.
- SmartSwitch.** A printer function that automatically switches the printer language to that of the job the software application is sending to the printer.
- software application.** Any program loaded on your computer used to perform a specific task, such as word processing or data compiling.
- standard protocol.** A parallel printer protocol where the printer receives information sent from the computer at a normal transmission rate.
- status message.** A printer message that provides information on the state of the printer.
- subtractive color.** Color produced by mixing primary colors to produce a pigment or dye that reflects one wavelength of light and absorbs (or subtracts) all others. Color printers use subtractive color. The subtractive primary colors are cyan, magenta, and yellow.

symbol set. A unique set of alphanumeric characters and symbols that the printer uses to print the requested font. Different symbol sets offer the diverse characters required for different languages or symbol-intensive applications.

system board. The printer's main circuit board.

T **tabloid.** Paper measuring 11x17 in. Feeds short edge first.

timeout. A time interval allotted for certain operations to occur.

timing adjustment. See *calibration*.

Token-Ring. A type of network communication that conforms to IEEE 802.5 standard. The name is derived from its physical ring configuration and the passing of a token from adapter to adapter.

toner. The material that adheres to the paper or other media to create the printed page.

toner cartridge. The replaceable unit inside the printer that contains the toner supply and developer.

Toolkit. A group of utilities for DOS and OS/2 environments that help you perform routine printer functions, such as downloading fonts, installing screen fonts, and sending printer commands.

transport belt. The rotating belt inside the printer that uses an electrostatic charge to hold each sheet of paper as it moves the paper through the print units where the imaging process occurs.

tray linking. A means of increasing the capacity of the paper source by having the printer feed paper from one tray until it is empty and then automatically feed paper from another tray.

tri-port adapter. Optional card you can install inside the printer to add support for three interfaces: LocalTalk, serial (or receive-only fax), and infrared.

TrueType fonts. Fonts that use a single font outline for both screen display and printing. You can use TrueType fonts in Microsoft Windows applications and scale them to any height. They print exactly as they appear on the screen.

U **universal.** Paper size value to select for all paper that is not a standard size; defaults to 297 x 432 mm (11.7 x 17 in.) and feeds short edge first. Set the actual size of the page from your software application.

user default. Printer setting selected by a user that remains in effect until a new user default is chosen.

V **value.** One of the settings available for a specific menu item.

Y **yield.** The approximate number of A4 or letter size sheets you can print before a supply or service item must be replaced. For example, if a toner cartridge has a yield of 6,500, you can print approximately 6,500 pages before you must replace the toner cartridge.

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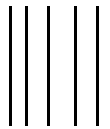
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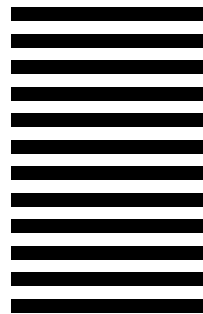
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